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ORGANIZATION AND MANAGEMENT PROBLEMS OF COOPERATIVE OIL ASSOCIATIONS IN MINNESOTA[1]

By Rudolph K. Froker, *Research Agent in Marketing, Division of Cooperative Marketing*, and H. Bruce Price, *Economist, Division of Agricultural Economics, University of Minnesota* [2]

CONTENTS

	Page
Purpose of the study	1
Organization of market	2
Cooperative distribution	4
Financial organization	10
Management	15
Buying policies	19
Price policies	20
Distribution of sales	21
Distribution of savings	24
Gross income and savings	25
Cost of operation	27
Other cooperative organizations handling petroleum products	33
Federation of cooperative oil associations	33
Cooperative oil associations in Illinois	35
Summary	37
Appendix A.—Suggested forms for annual statements of cooperative oil associations	38
Appendix B.—Suggestions for organizing a cooperative oil association	40
Appendix C.—Suggested articles of incorporation and by-laws for a cooperative oil association	41

Cooperative buying of gasoline, kerosene, and lubricating oils is one of the most recent developments in cooperative organization among farmers. These products have been sold by a few cooperative stores, farmers' elevators, and other types of cooperative associations for several years, but only recently have they been retailed as the principal commodities in cooperative enterprises. The cooperative oil associations of Minnesota were selected for this study because that State probably ranks first in the number of such associations serving rural districts and because Minnesota was one of the pioneer States in the movement.

PURPOSE OF THE STUDY

The purpose of this study is to present the types of organization and the methods of operation of cooperative oil associations. This information should be useful in the organization of new associations, and will provide managers and officers of existing oil cooperatives with a basis for comparing their own organizations with others of similar type.

Data were gathered in 1926 chiefly through personal visits to the associations. The study was further supported and enlarged in 1928, with data from annual statements and audits, collected from accountants and from association records. Tables and charts on shipments of petroleum products into the State were compiled from records in the Minnesota Oil Inspection Department.

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[1] This circular is based on a study made by the Division of Cooperative Marketing, Bureau of Agricultural Economics, U. S. Department of Agriculture, and the University of Minnesota.

[2] Rudolph K. Froker is now a member of the Department of Agricultural Economics, University of Wisconsin, and H. Bruce Price is now head of the Department of Markets, University of Kentucky. Credit is due J. H. Lister for assistance in compiling data on costs of operation.

Associations included in this study are strictly cooperative in organization and business practices. They have for their chief purpose the buying and retailing of petroleum products. Three of the associations are located outside of Minnesota; at Lake Mills, Iowa; Wahpeton, N. Dak.; and at Luck, Wis. They are, however, in the Minnesota trade territory and are similar in organization and operation to the Minnesota companies. Figure 1 shows a typical cooperative service station in Minnesota.

The following terms are used frequently: "Bulk station," "tank wagon," "service station," and "curb pump." A bulk station is the storage tanks and warehouse where the petroleum products are received and stored, usually in carload lots. A tank wagon is a delivery truck with its truck tank, used to deliver petroleum products either to patrons directly, in barrel lots, or to service-station and curb-pump tanks, in larger quantities. A service station, often called a filling station, is strictly a retail oil establishment with its building, underground tanks, pumps, and other equipment, used to care for the needs and conveniences of automobile drivers. A curb pump is similar to a service-station pump, but is usually located in front of and operated in conjunction with a garage, hardware store, grocery store, or similar enterprise. The word "company" as applied locally to these cooperatives is used interchangeably with "association."

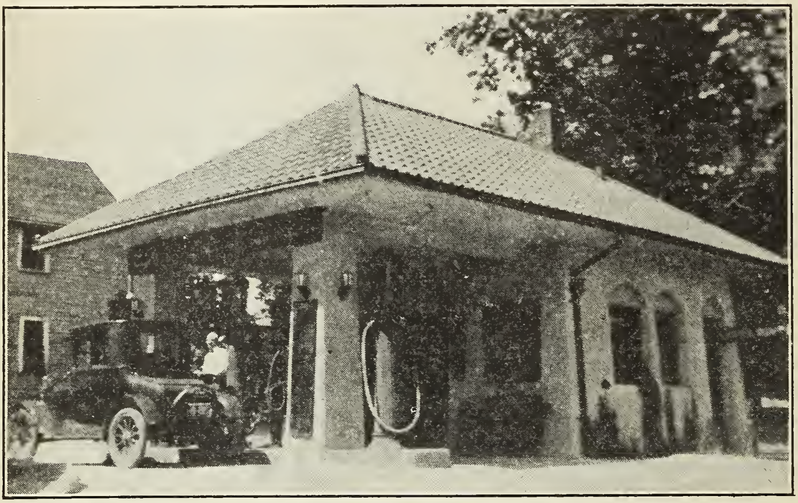

FIGURE 1.—TYPICAL COMMUNITY COOPERATIVE OIL AND GASOLINE SERVICE STATION IN MINNESOTA

ORGANIZATION OF MARKET

Petroleum products are not produced in the area included in this analysis. The gasoline, kerosene, distillate, lubricating oils, and other petroleum products used are all shipped in. A large number of commercial companies are engaged in the distribution of these products. The records of the Minnesota Oil Inspection Department show that, in 1927, gasoline was shipped into the State by 615 oil dealers operating 1,556 bulk plants in 518 towns and cities within the State. Sixty-five of these companies had a total of 1,006 distributing points, and 550 companies had 1 distributing point each. In addition, 20 manufacturing firms, and 13 railroad and transportation companies brought these products into the State, and there were 46 oil dealers outside of the State who delivered, mostly in tank wagons, at points within the State. These figures do not include the many service stations and curb pumps which are supplied from these bulk plants; the actual number of retail distributing stations is, therefore, much larger than these data alone would indicate.

The principal petroleum products are handled by wholesalers, jobbers, and brokers in the large central markets. Retail companies may also purchase direct from the refineries. One of the important characteristics of the petroleum industry is the high degree of integration in the marketing and production processes. Large oil companies frequently control their products from the refineries to the retail outlets and in many cases to the ultimate consumer. Wholesalers, jobbers, and brokers buy petroleum products on specification and sell under their own trade brands. The retailers in turn use the same brands and only occasionally develop brands of their own.

Gasoline, kerosene, lubricating oils, and other petroleum products are retailed from service stations, from bulk stations through tank wagons, and from curb pumps. These establishments are owned and operated by wholesalers, refiners, private individuals, groups of local persons on a joint-stock plan, and cooperative associations of consumers. Deliveries made from the bulk plants to consumers are usually in barrel lots, whereas sales are made from service stations and curb pumps in smaller quantities direct to automobile drivers. Tank-wagon sales are sometimes referred to as wholesale trade to distinguish them from service-station and curb-pump sales, which are at slightly higher prices. The tank-wagon deliveries direct to consumers, however, are largely of a retail nature; in rural communities this trade represents a high percentage of the total business.

Consumption of gasoline in Minnesota has increased with astonishing rapidity during recent years as shown in Figure 2 and Table 1, which also show the growth of the kerosene business and the shipments of distillate. Distillate is a heavier oil than gasoline or kerosene and is used largely in oil furnaces for heating homes and for commercial purposes. The data given include all gasoline, kerosene, and distillate brought into the State in tank cars and tank wagons and subject to State inspection Out-shipments of kerosene are insignificant in comparison with the in-shipments, according to the Minnesota Oil Inspection Department. Those for gasoline are probably less than 1 per cent of the in-shipments. The quantity brought into the State is, therefore, a good measurement of the quantity consumed.

TABLE 1.—*Shipments of gasoline, kerosene, and distillate into Minnesota, 1909–1927*

Year	Gasoline	Kerosene	Distillate	Year	Gasoline	Kerosene	Distillate
	Gallons	*Gallons*	*Gallons*		*Gallons*	*Gallons*	*Gallons*
1909	7, 908, 872	8, 151, 733	------------	1919	90, 709, 870	35, 833, 389	------------
1910	14. 278, 000	15 045, 585	------------	1920	117, 174, 487	38. 829, 243	------------
1911	17, 616, 005	15, 987, 620	------------	1921	139, 137, 401	39, 183, 651	------------
1912	18, 651. 765	16, 796, 720	------------	1922	148, 910, 700	41, 127, 791	34, 490
1913	25, 355, 660	18, 890, 850	------------	1923	186, 069, 180	42, 530, 272	4, 131, 756
1914	30, 387, 500	21, 092, 115	------------	1924	213, 463, 230	41, 815, 281	8, 164. 794
1915	38, 744, 739	25, 829, 826	------------	1925	245, 977, 896	43, 824, 011	13, 711, 360
1916	47, 632, 068	31, 754, 712	------------	1926	266, 148, 083	39, 552, 179	18, 931, 228
1917	68. 204, 150	30, 083, 600	------------	1927	289, 686, 418	39, 564, 669	21, 687, 549
1918	78, 481, 250	32. 886, 050	------------				

Data from Minnesota Oil Inspection Department, St. Paul, Minn.

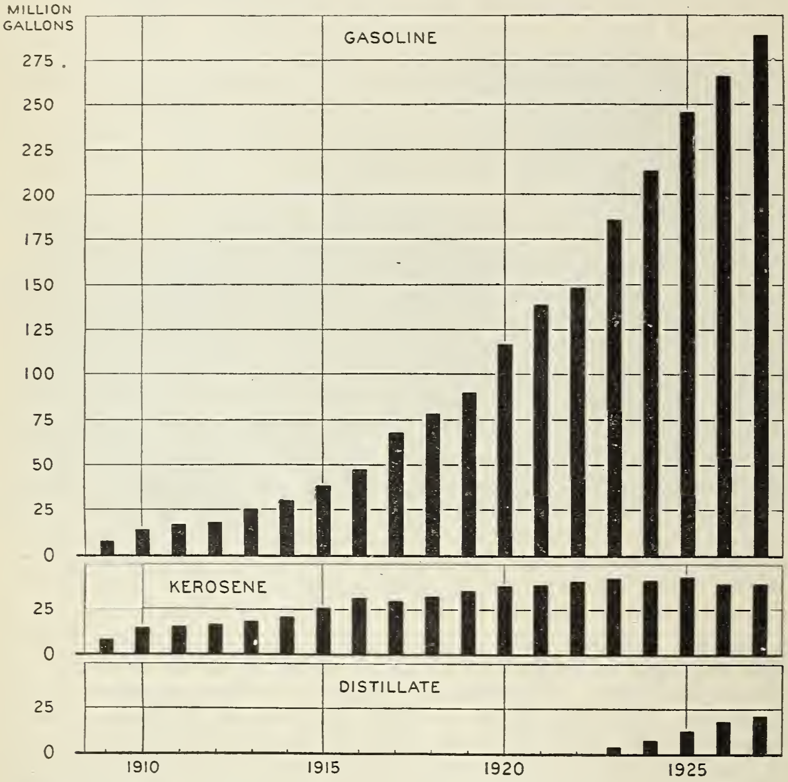

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FIGURE 2.—SHIPMENTS OF GASOLINE, KEROSENE, AND DISTILLATE INTO MINNESOTA, 1909-1927

Shipments of gasoline into Minnesota increased from 8,000,000 gallons in 1909 to 290,000,000 gallons in 1927. Kerosene in-shipments were also 8,000,000 gallons in 1909 but were 40,000,000 gallons in 1927. Distillate shipments increased from 34,000 gallons in 1922 to 22,000,000 gallons in 1927.

COOPERATIVE DISTRIBUTION

The first cooperative oil association in Minnesota was organized at Cottonwood, in 1921, and was followed by the Central Cooperative Association at Owatonna, in 1922. Figure 3 shows the growth of the cooperative oil movement in the State. Of the local cooperative oil associations in Minnesota in January, 1928, 8 began operating during 1924, 6 during 1925, 26 during 1926, and 8 during 1927, making a total of 48. The three companies at Lake Mills, Iowa; Wahpeton, N. Dak.; and Luck, Wis., are not included in Figure 2 but are used in later sections of this study.

Several more or less closely related reasons may be advanced to explain the rapid growth of the cooperative movement in this field. Perhaps the most important single factor is the substantial savings which many of these associations have been able to realize for their patrons. The growth in volume of sales by four of the older cooperative oil companies is shown in Table 2. The success of these four companies has been the incentive for the organization of many similar cooperatives. Patronage dividends declared by them were 9.7 per cent of total sales in 1925, 11.6 per cent in 1926, and 10 per cent in 1927. (Table 3.)

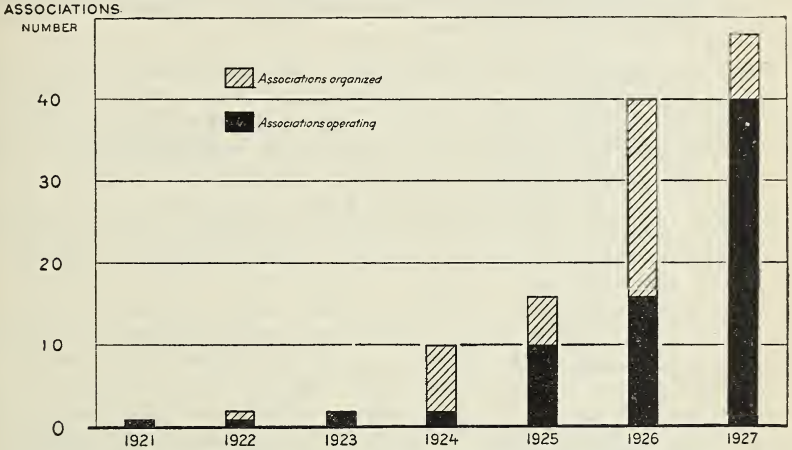

FIGURE 3.—COOPERATIVE OIL ASSOCIATIONS OPERATING IN MINNESOTA AND NEW ASSOCIATIONS ORGANIZED, 1921—1927

The number of cooperative oil associations in the State has increased rapidly since 1923. Twenty-six associations were organized in 1926.

TABLE 2.—*Volume of sales by four of the older cooperative oil associations in Minnesota, 1922–1927*

Association No.	1922	1923	1924	1925	1926	1927
	Dollars	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
1	55, 407	87, 454	102, 070	169, 602	223, 726	230, 229
2	32, 920	49, 556	65, 496	68, 781	91, 795	90, 754
3	----------	----------	40, 790	131, 484	192, 712	181, 629
4	----------	----------	----------	164, 211	231, 484	213, 472
Average	44, 164	68, 505	69, 452	133, 520	184, 929	179, 021

Associations 2 and 3 are located in a section where price wars on gasoline have been unusually frequent.

TABLE 3.—*Patronage dividends in percentage of sales as paid by four of the older cooperative oil associations in Minnesota, 1922–1927*[1]

Association No.	1922	1923	1924	1925	1926	1927
	Per cent	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
1	5.9	7.4	5.0	13.2	14.7	12.0
2	3.6	6.3	10.6	10.5	8.1	7.8
3			4.1	5.6	8.6	8.9
4				9.0	12.5	9.6
Weighted average	5.0	7.0	6.6	9.7	11.6	10.0

[1] These dividends are net savings after operating costs, depreciation, special reserves, and 8 per cent interest on capital stock have been deducted from the net operating income. A nonmember's dividends are credited toward a share of stock in the association.

These dividends are net savings after allowances have been made for operating expenses, special reserves, and 8 per cent interest on capital stock, and are paid out in the form of patronage refunds on sales. The substantial size of the reserves is indicated by the book value of the capital stock on January 1, 1928; a $25 share of stock had a book value of $40, $63, $60, and $29 in the respective companies.

The first two associations, like many that followed, were organized principally by farmers who were active in other phases of cooperative marketing and who were already well grounded in the principles of cooperative organization. Moreover, they were located in southern and western Minnesota, where farmers are relatively large consumers of petroleum products and where a small saving per unit amounts to a substantial sum per year for each. Most of the cooperative oil associations are located in this section. Eighty-six per cent of the stockholders of the companies included in this study are farmers.

The retail oil trade is handled by a multiplicity of retail stations, many of which have small volume and operate on a wide margin. For example, a typical cooperative oil association in a town with a population of 1,900 has competition from three bulk and service stations, five sets of curb pumps, and four competitive tank wagons operating in the surrounding country districts.[3] The fact that the independent companies generally follow the prices established by their principal competitors and the fact that margins are frequently wide suggest a real opportunity for saving through cooperative oil associations.

The cooperative movement is further encouraged by the fact that the use of petroleum products is rapidly increasing and that the capital required to start an oil station in most rural communities, although large in total amount, is small per member, because of the wide interest in such an enterprise. Petroleum products are so generally used that the necessary capital for a cooperative association, in most cases, can be raised easily by the sale of small shares of stock to farmers and townspeople. As compared with some other types of successful cooperative enterprises, little special skill or training is required to operate a retail oil station, so the problem of management has not been a hindrance to the organization. All shipments of gasoline, kerosene, and distillate into Minnesota are inspected and tested for quality.[4] It has, therefore, been principally as an economy and a competitive measure, rather than as a criticism of the existing service or of the quality of the petroleum products, that the cooperative oil-marketing movement has advanced in Minnesota.

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[3] Six hundred and fifteen oil dealers operated 1,556 bulk plants in 518 towns in Minnesota during 1927. The total number of service stations and curb pumps in the State is not known.

An evaluation of the importance of the cooperative movement in the retailing of petroleum products can best be made by comparing the relative volumes of business with other associations serving the same territory. In communities in which cooperative oil associations are well established, they handle relatively larger volumes of business than do their competitors. A comparison of the volumes of gasoline, kerosene, and distillate handled by the 66 cooperative bulk stations in Minnesota with the 162 other bulk stations operating in the same towns during 1927 shows that most of the cooperative stations have larger volumes of business. Thirty-eight cooperative bulk plants handled over 50 per cent of the gasoline, kerosene, and distillate shipped into towns in which they operated during 1927; 21 of these handled over 75 per cent of the petroleum business in their respective towns. These data are summarized in Table 4.

TABLE 4.—*Gasoline, kerosene, and distillate handled by 66 cooperative bulk stations and by 162 other bulk stations operating in the same towns in Minnesota, 1927*

Percentage of total handled by cooperative bulk stations	Bulk stations			
	Cooperative	Volume handled	Other	Volume handled
	Number	*Gallons*	*Number*	*Gallons*
100 per cent	10	1,428,292	0	0
76 to 99 per cent	11	2,865,742	12	576,846
51 to 75 per cent	17	3,895,560	27	2,879,762
26 to 50 per cent	[1] 15	4,670,330	51	7,376,663
25 per cent or less	[2] 13	3,140,246	72	17,261,030
Total	66	16,000,170	162	28,094,301

[1] 2 stations operated less than six months.

[2] 1 station operated less than six months.

As a whole, cooperative associations are not as old as their competitors; 26 cooperative associations were organized in Minnesota during 1926 and 8 during 1927. Moreover, where cooperative associations are well established, they often handle a large percentage of the entire petroleum business in the county. In six counties cooperative bulk stations handled from 25 to 47 per cent of the gasoline, kerosene, and distillate shipped into these counties during 1927. (Table 5.) These data show the importance of these associations in the territories which they serve.

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[4] Before a tank car of gasoline, kerosene, or distillate can be unloaded it is measured and tested by a representative of the State oil inspection department. The temperature at the top, middle, and bottom, of the car is read and proper adjustments are made in computing gallonage. Gasoline brought into the State is tested for specific gravity, sediment, end point, and distillation. In States where inspection is less rigid, control of quality by local companies may become relatively more important in cooperative purchases. Two associations adjacent to Minnesota are known to have purchased equipment with which to make check tests of gasoline purchases. The Illinois Farm Supply Co., discussed later, places emphasis on quality in the sales of gasoline as well as in lubricating oil.

TABLE 5.—*Comparative data on oil companies operating in six counties in Minnesota during 1927*

County	Percentage of total handled by cooperative	Bulk plants in county		Towns with bulk plants in county	Quantity shipped into county [1]
		Cooperative	Other		
	Per cent	*Number*	*Number*	*Number*	*Gallons*
Lyon	47	6	16	8	4, 137, 585
Steele	40	2	14	5	3, 221, 972
Yellow Medicine	37	5	11	8	3, 019, 174
Freeborn	28	5	17	12	4, 668, 628
Nicollet	27	2	8	4	1, 454, 852
Lac Qui Parle	25	2	13	6	2, 263, 187

[1] Gasoline, kerosene, and distillate.

The distribution, location, and type of stations operated by cooperative associations in Minnesota are shown in Figure 4. The majority are located in the south-central and the southwest-central parts of the State, where motor power is used extensively on farms. Bulk stations predominate because farmers are such large consumers of petroleum products. For example, the 51 associations included in this study own 69 bulk stations and 27 service stations. Each service station is located in a town where a bulk plant is also operated by the same association.

Forty-two of the forty-eight cooperative oil associations in Minnesota are organized under the provisions of the general cooperative law of Minnesota of 1923.[5] Six associations, two of which were formed prior to 1923, are organized under the Minnesota laws of 1921.[6] One of these associations has since amended its charter to comply in full with the provisions of the general cooperative law.

Some associations have both bulk and service stations, whereas others operate only bulk plants. In either case deliveries of gasoline, kerosene, and distillate are made by tank wagons direct to farmers. The truck drivers unload from their truck tanks into barrels which are supplied by the patrons. Lubricating oils and greases are delivered in convenient quantities. If service stations are operated, the usual retail service and conveniences are offered automobile drivers. The associations plan to operate on a cash basis so far as it is expedient, but a considerable part of the business is done on a short-time credit basis.

The majority of these associations are organized on the single-community plan, and they attempt to serve only the people within a radius of 8 to 12 miles of the bulk station. Some associations include members from two or more communities and give service from one or more bulk and service stations. Other organizations include a whole county and handle upwards of a million gallons of gasoline and kerosene yearly.

The single-community plan calls for a relatively small organization in which the officers and members are in close contact with the business. Some of the duties, such as bookkeeping, clerical work, and occasionally even the general managerial duties, are performed by officers of the organization, whereas in a larger association these details are cared for by employees. A single-community association, located in a small village, may experience some difficulty in raising the desired amount of capital with which to start business; occasionally it may also lack sufficient volume of sales to realize the economies of a larger organization. A county association, on the other hand, operating from one or two central points, has a larger membership and a greater volume of business in proportion to its fixed investment. It is often possible for such an association to employ a better manager and adopt a more complete system of bookkeeping than is possible for a

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[5] MINNESOTA, LAWS, STATUTES, ETC. SESSION LAWS OF THE STATE OF MINNESOTA PASSED DURING THE FORTY-THIRD SESSION OF THE STATE LEGISLATURE AT THE SESSION COMMENCING JANUARY 2, 1923. Minn. Sess. Laws 1923: 457–478. 1923. (Ch. 326–H. F. No. 1196.)

[6] MINNESOTA, LAWS, STATUTES, ETC. SESSION LAWS OF THE STATE OF MINNESOTA PASSED DURING THE FORTY-SECOND SESSION OF THE STATE LEGISLATURE AT THE SESSION COMMENCING JANUARY 4, 1921. Minn. Sess. Laws 1921: 25–33. 1921. (Ch. 23–H. F. No. 63.)

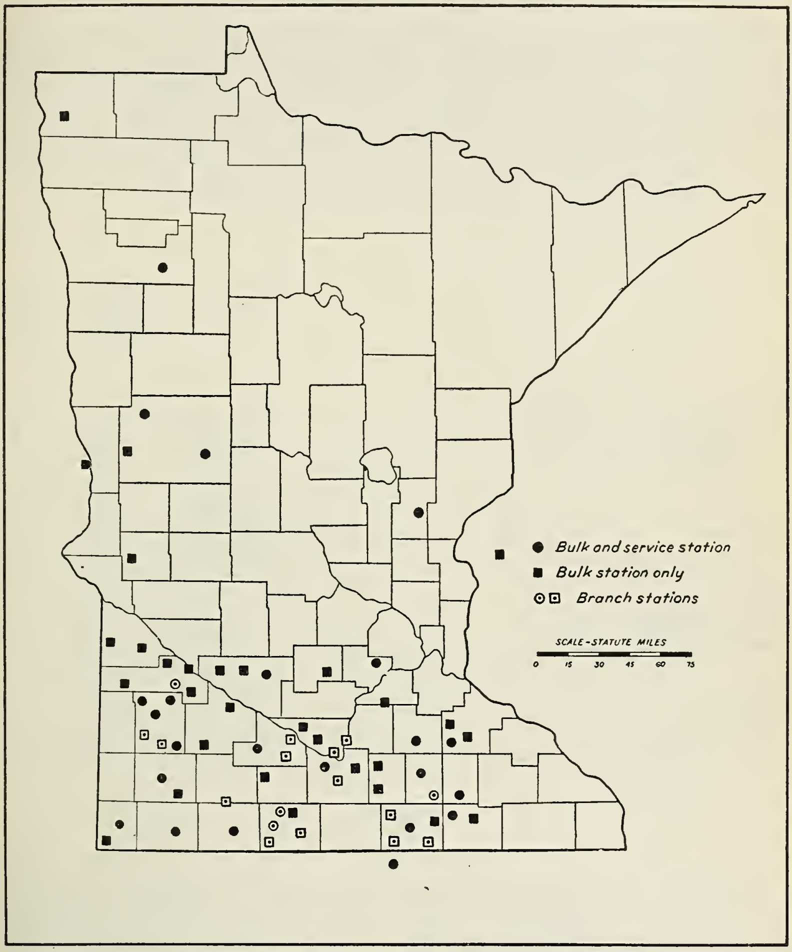

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Figure 4.—Location of 51 Cooperative Oil Associations, 1928

The 51 associations included in this study operate 69 bulk stations and 27 service stations. Bulk stations predominate because farmers are usually large consumers of petroleum products.

small association. The Minnesota State association of local cooperative oil companies indorses the county plan as preferable if local conditions are favorable. Figure 5 gives the plan of organization of a well-developed county association. Ten of the associations included in this study are organized on this plan.

FINANCIAL ORGANIZATION

Capital is needed by a cooperative oil association to finance the plant, including buildings, site, and general equipment; to buy merchandise, and to care for current operating expenses. The total amount of capital needed depends upon the size of these items. A consolidated balance sheet for 40 associations is given in Table 6. Fixed assets represent 40 per cent of the total capital requirements and are approximately equal to the paid-in capital stock.

TABLE 6.—*Consolidated balance sheet for 40 cooperative oil associations, 1927*

Item	All associations	Average of associations	Percentage of total
Assets:			
Other than fixed—			*Per cent*
Cash on hand and in bank	$168, 743. 46	$4, 218. 59	16. 86
Accounts and notes receivable	207, 952. 50	5, 198. 81	20. 77
Inventories	194, 301. 93	4, 857. 55	19. 40
Miscellaneous assets	29, 186. 87	729. 67	2. 92
Total	600, 184. 76	15, 004. 62	59. 95
Fixed assets	400, 896. 77	10, 022. 42	40. 05
Total assets	1, 001, 081. 53	25, 027. 04	100. 00
Liabilities:			
Accounts payable	37, 934. 16	948. 35	3. 79
Notes and mortgages payable	106, 857. 20	2, 671. 43	10. 68
Accrued expenses	29, 354. 66	733. 87	2. 93
Total	174, 146. 02	4, 353. 65	17. 40
Capital stock	384, 442. 87	9, 611. 07	38. 40
Reserves and surplus	442, 492. 64	11, 062. 32	44. 20
Total liabilities and net worth	1, 001, 081. 53	25, 027. 04	100. 00

PLANT

The principal capital requirements of a cooperative oil association are for plant. Associations that operate only bulk stations need relatively much less capital for plant than do those that operate both bulk stations and service stations. A bulk plant is built for temporary storage and for convenience in handling the products. Little emphasis is placed on attractive appearance. Figure 6 shows a typical bulk plant of a large oil association designed primarily to give service and with no unessential features that would increase the cost of building. This plant has both the horizontal and the vertical tanks, which provide storage for low and high test gasoline, kerosene, and distillate, and represents an investment of $6,000. Lubricating oils, greases, and miscellaneous equipment are stored in the warehouse.

The number of bulk storage tanks and their capacities vary widely between associations, depending chiefly upon volume of business and somewhat upon method of operation. Bulk stations have at least three large storage tanks of 12,000 to 15,000 gallons' capacity for low-test gasoline, high-test gasoline, and kerosene, and a warehouse with storage room for a carload of lubricating oil. The high-test gasoline storage tank is often used for low-test gasoline during the months of large sales in late summer and early fall and makes possible more efficient use of plant facilities. Most of the bulk plants are equipped with electric motors for operating the unloading pumps.

Service stations owned and operated by cooperative associations located in towns of less than 10,000 inhabitants range in cost from $3,000 to $10,000 per station. Differences in location and type of building are the chief reasons for the wide variation in capital investment, although the purchase of used stations is also a factor.

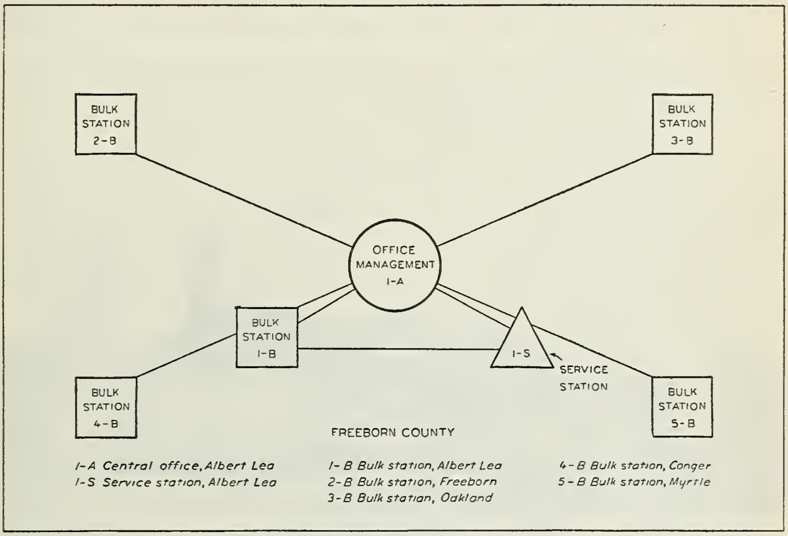

FIGURE 5.—ORGANIZATION PLAN OF THE FREEBORN COUNTY COOPERATIVE OIL ASSOCIATION

This association retailed 28 per cent of the gasoline, kerosene, and distillate shipped into the county during 1927. Deliveries are made from bulk stations by means of tank wagons and sales are made direct to automobile drivers at the service station.

SITE

Service stations of cooperatives compare favorably in location and appearance with the stations of their competitors. These features are considered important, especially in attracting tourist trade. In most cases part of the service-station building is used as office room for the company. Figure 7 shows one of the more expensive cooperative service stations. Some associations keep down their investment cost by less expensive sites; whether this is the more economical policy depends upon local conditions. Four cooperative associations have found it possible to have their bulk and service stations combined, or located near each other, so that the small supply tanks of the service station can be connected with the bulk tanks by means of a pipe line. This saves much of the expense as well as shrinkage in handling.

EQUIPMENT

The equipment of a service station is usually not extensive or elaborate. Underground storage tanks with a capacity of 550 to 1,000 gallons are provided for both low and high test gasoline. The number of pumps varies from 2 to 5; the most common numbers are 1 or 2 for low-test and 1 for high-test gasoline. An air-pressure tank, an air pump, and a gasoline engine or electric motor to run the pump are part of the regular equipment. Barrels, oil pumps, and convenient containers for lubricating oils are furnished. Public rest rooms and occasional drinking fountains are provided for tourists. The service includes not only the selling of gasoline, lubricating oil, and grease but also the filling of radiators, changing of crank-case oil, and sometimes complete greasing. Pits or automobile racks are provided for crank-case service. A few attendants make a practice of wiping windshields, and three stations provide racks for washing cars. (Fig. 8.) A small charge is made to cover the cost of water and upkeep of the booth. If the attendant does the washing, an additional charge is made.

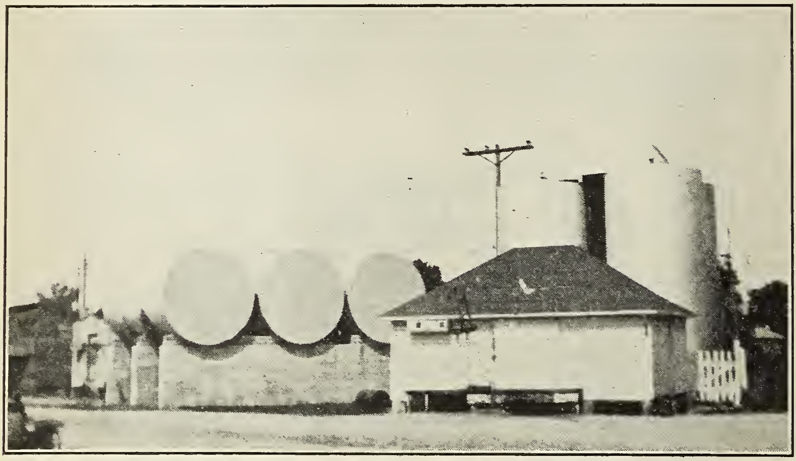

FIGURE 6.—BULK STATION OF A LARGE COOPERATIVE OIL COMPANY, WITH HORIZONTAL AND VERTICAL BULK TANKS AND WAREHOUSE

CREDIT POLICY

The amount of capital tied up in accounts and notes receivable varies widely between oil associations, depending upon the volume of business and the practice of selling for credit, but in most cases it is a substantial sum. Credit is usually allowed tank-wagon patrons, often merely as a convenience to truck drivers who can not easily see the customer at time of delivery. It is used much less extensively for sales at service stations.

An analysis of the accounts and notes receivable at the end of the fiscal years 1925 and 1927 (Table 7) shows wide variations in the credit policies. The average association has more than a month's sales outstanding in accounts at the close of the fiscal year. The importance of complete control of credit is evident when approximately one-twelfth of the annual sales are outstanding in the form of accounts and notes receivable at the end of the fiscal year. Managers of the 25 oldest associations estimated that from one-third to two-thirds of their sales are on a short-time credit basis, the average being approximately 50 per cent.

TABLE 7.—*Percentage of total sales in accounts outstanding at end of fiscal year, 40 cooperative oil associations, 1925 and 1927*

Percentage group	Associations having indicated percentage of sales outstanding in—	
	1925	1927
	Number	*Number*
Under 5 per cent	4	8
5 to 9.9 per cent	7	18
10 to 14.9 per cent	2	8
15 per cent and over	1	6
Total	14	40
Average (per cent)	8.3	9.2

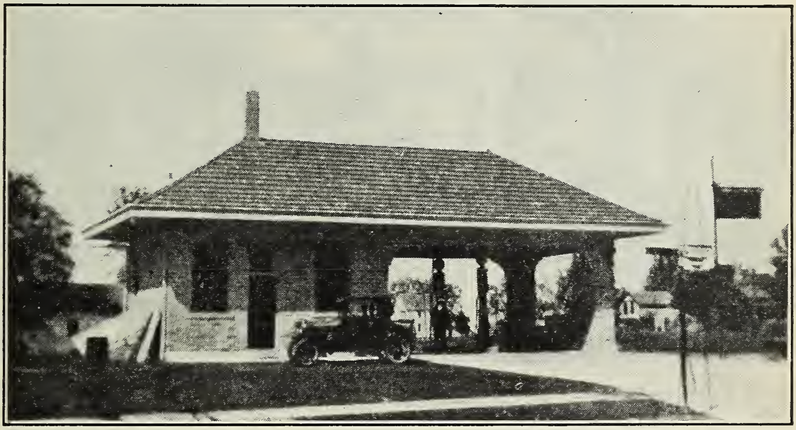

FIGURE 7.—A COOPERATIVE ASSOCIATION SERVICE STATION WITH AN ATTRACTIVE BUILDING LOCATED ON A MAIN HIGHWAY NEAR THE BUSINESS SECTION OF A TOWN

Few cooperative oil associations have operated long enough to test the worth of their present credit practice, but brief experience shows it to be an important management problem. For example, a firm with a large amount represented in outstanding accounts is at a disadvantage, not only because of the cost of collecting and losses from bad debts, but because of the larger amount of operating capital required. Lack of sufficient capital on hand sometimes makes it impossible for companies to take advantage of all discounts which may be allowed. A few of the oil associations already appreciate the importance of restricting credit and have taken definite steps to control their future sales.

Three practical ways of protecting the organization against excessive credit are being tried. The first and most common practice is to require a tank-wagon operator to sign a driver's or subdealer's contract, which makes him responsible to the association for all the credit he extends. A period of 30 or 60 days of grace is given him to collect the accounts, but as a guarantee to the association he is required to furnish special bond. A second practice, less extensively used, is to have the board of directors authorize a list to whom credit may be extended to a limited amount. Two associations, in which the manager operates the whole business on a straight commission basis, hold the managers accountable for all credit under much the same provisions as the tank-wagon operators are held responsible in the other associations.

A more recent practice which finds wide favor is for the association to refuse patronage dividends on all acounts that go unpaid over 30 or 60 days, and on accounts that are not paid at the end of the fiscal year. This method is valuable, both because it directs the patrons' attention to the cost of credit and because it assesses such costs, at least in part, against those patrons for whom they are incurred. Another method is to allow a small discount for cash for accounts that are paid each week. The attention which associations are giving to credit is certainly an indication of the importance of this management problem, and new associations will do well to give it early consideration. The method of control finally adopted will depend on the type of organization and upon local conditions.

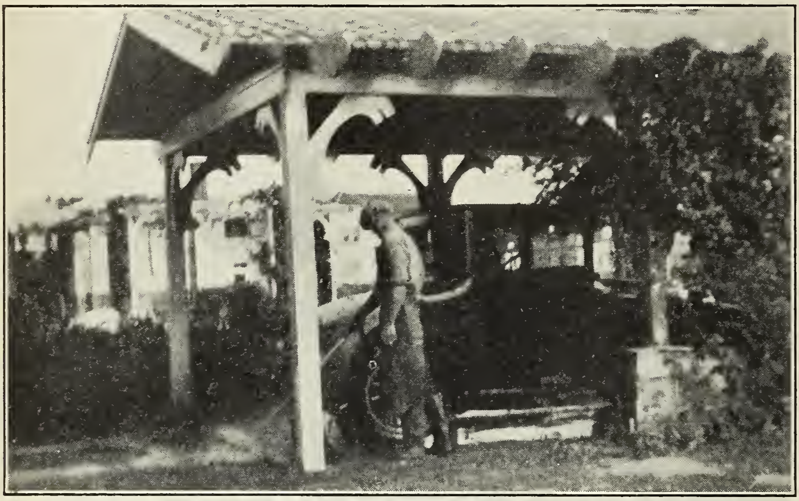

FIGURE 8.—A CONVENIENT PLACE FOR WASHING CARS, PROVIDED BY A COMMUNITY COOPERATIVE OIL ASSOCIATION

OPERATING CAPITAL

The value of stocks of products kept on hand is relatively large for retail agencies. Gasoline, kerosene, and distillates are bought in carloads of approximately 8,000 gallons. Greases and lubricating oils, although purchased in smaller quantities, require a considerable investment because of their greater unit value. The merchandise inventories in Table 6 represent an investment of nearly $5,000 per association. Companies that have a large volume of sales or that operate more than one station have even larger minimum requirements. The time of year is also a factor. Stocks must be much larger during periods of peak sales than at other seasons. This point is discussed more fully in a later section.

The amount of capital needed to pay for purchases of stocks and to meet current expenses depends upon (1) methods of buying, (2) volume of business, and (3) promptness in paying bills. Associations that buy on credit and that are slow in paying operating expenses naturally need less capital than do those that buy for cash and meet bills promptly. In any case, $4,000 to $5,000 appears to be a minimum amount of working capital for a community type of oil association, and larger organizations need substantially larger sums.

TOTAL REQUIREMENTS

The total investment, including cash on hand, of the associations for which detailed information is available, ranged from $7,000 to $85,000. Only nine companies had assets valued at less than $12,000. The capital requirements of a cooperative oil association may therefore be said to be relatively large when compared with the investment needed for many other forms of local cooperation, and members must expect to provide for it more liberally.

SOURCES OF FUNDS

As these associations are all stock companies, the sale of capital stock, the accumulation of surplus, and the short-time borrowing of funds are the principal sources of capital. The chief source is the sale of stock, which is usually sold in $25 shares. Ordinarily each member purchases only one share, but in a few instances, where the size of the share is $10 or $15, two or three shares per member are more common. The Minnesota general cooperative law limits the ownership of stock by any one person to $1,000 par value, but most associations place a much narrower restriction on the ownership of their capital stock. The cooperative law further provides that shares of stock shall not be transferable except with the approval and consent of the board of directors. It has been the practice of these associations to distribute their stock as widely as possible in order to encourage patronage and build up good will.

The associations studied have encountered no unusual difficulties in raising capital. The proceeds from the sale of capital stock provide approximately for the fixed investment in real estate, buildings, and general plant equipment. This leaves the current expense, especially in the beginning and during peak-sale periods, to be taken care of by short-time loans. These loans are usually made by the local bank on notes given by the association. Long-time loans or mortgages are the exception rather than the rule. As an association becomes older, additional stock is sold and a permanent surplus reserve is built up, so that funds may be available during periods of heavy demand for capital. The fact that little storing is done by a local oil company, except for short periods, greatly simplifies the problem of financing.

MANAGEMENT

BOARD OF DIRECTORS

Boards of directors of the smaller cooperative oil associations have usually 5 or 7 members and those of the larger organizations have 7 or 9 members. The executive committee functions separately from the board in only five associations. In two-thirds of the organizations the boards of directors meet monthly. In most of the others they meet at the call of the president and secretary. With only a few exceptions, the directors receive compensation for their services at a rate of $2 or $3 per meeting or at a specific amount for the year. Allowance is made usually for one-half the car mileage covered in attending meetings, if the organization covers more than one community. The secretaries are paid a small salary in addition to these allowances, depending largely upon the amount of bookkeeping and correspondence required of them.

There is much to be said in favor of frequent and regular meetings of the board of directors. Such meetings make possible a familiarity with the business and the problems of the plant. It is possible for the directors to have a more accurate check on volume, shrinkage, and credit and sales practices if they keep in constant touch with the business operations. If it is thought best to cut down the expense of the board, it would seem better to have fewer members rather than to dispense with necessary meetings. A number of the problems of any association can be handled efficiently only by men who have had close contact with the organization.

THE MANAGER

Duties and responsibilities of managers vary greatly, even among associations that pay similar salaries. Managers are expected, ordinarily, to take care of the buying, the unloading, and the general supervision of supplies, sales, records, etc. For associations that operate service stations, managers usually spend part of their time as station attendants. In a few cases, they are required to keep the records.

The policy of cooperative oil associations is, therefore, to employ managers who are experienced in the retail-oil business or who have other business experience. Of 29 managers interviewed, 18 had previously been employed one or more years with other oil companies, 4 had been managers of farmers' elevators, 1 had been assistant cashier of a bank, 1 had been a jeweler, and 1 was a mechanical engineer by profession. Only 5 managers had had no business experience. Seven managers had operated farms, 9 had attended only common school, 12 had had secondary school training, 6 had taken short courses in commercial schools, and 2 had received normal school or college training.

Managers are paid either a straight salary or a commission. Those who are paid a commission supply their own tank wagons and drivers, and receive approximately the same commission as is received by tank-wagon drivers who furnish their own trucks. In a few cases, where only small bulk plants are operated, the members of the executive board serve as managers, and only the tank-wagon operators are employed and paid for their services.

RECORDS

Accurate and detailed records are necessary for careful analysis of the business by the management. Operating costs, sales policies, shrinkage, and other problems can be controlled well only on the basis of information provided by accounts and audits. The larger cooperative oil associations, with sufficient volume to permit the employment of full-time bookkeepers, have thus an advantage over the small associations whose manager or secretary is frequently expected to keep the records in addition to his other duties. Modern office equipment, such as bookkeeping machines, has been installed by a few companies as an aid in providing the management with adequate information.

Approximately two-thirds of the cooperative oil associations in Minnesota have their books audited annually by public accountants. This practice is recommended because it provides an additional check on business operations and gives members added assurance of the integrity of the management. A few associations have semiannual audits, and others have members of the board of directors make the audit. Suggested forms for annual statements are included in Appendix A, because they indicate the type of records that should be kept to give a complete picture of the year's operations.

The checking and recording of retail sales is handled by the cooperative associations in various ways, but the records of tank-wagon sales are rather uniform. Sales slips with the name of the purchaser, the quantity, kind and amount of the sale, and the name or initials of the driver are made out in duplicate at the time of delivery. One copy is given to the patron and the other is turned over to the bookkeeper, who either files or records it under the buyer's name.

The records of service-station sales are not so well standardized. The system chosen depends somewhat upon the basis of distributing the patronage dividends at the end of the year. A detailed system with a ticket for each sale, showing the quantity, amount of sale, and name of the purchaser, is to be recommended, but many think that it requires too much bookkeeping. A simple, accurate, and apparently practical method is to have a cash register which turns out a sale ticket with the number, the quantity, and amount of the sale automatically stamped on it. The ticket is then given to the patron who keeps it until the end of the year, when it may be presented as a claim for patronage dividends. This system has the advantage of requiring little of the attendant's time. In a few cases, a cash-registry roll is used and the name of the purchaser is written opposite the amount of sale. At the end of each day this roll is given to the bookkeeper who records each sale. Some associations furnish patrons with dollar-and-cents punch cards. These cards have the numerals 10, 25, 50, and $1 and are punched with the amount of each sale.

If dividends are paid on a unit basis and on gasoline only, gallonage punch cards are sometimes used. These are similar to the other cards except that they have the figures 1, 3, 5, and 10 to be punched according to the number of gallons purchased. The difficulty with the card system is the large amount of the attendant's time required. If the cards are filed at the station the attendant must secure the card from the office files after each sale. This feature is objectionable during busy hours. If patrons keep their own cards, they often forget to carry them or perhaps the attendant must wait while the patron hunts through his pockets to find the card. Gallonage coupons for gasoline are sometimes used at the service stations, but these coupons also emphasize volume and do not show the price of the gasoline or the quantity and value of the lubricating oil that is purchased at the same time.

Accurate stock account records are essential. The loss through shrinkage is an important item of cost and deserves as careful attention as any direct outlay of money. An excess shrinkage of 1 per cent means a loss of 1 gallon out of every 100 gallons purchased; in the aggregate this becomes an important item of cost. A normal shrinkage in gasoline should not exceed 1.5 to 2 per cent, according to good authority. The average for 33 associations as indicated in Table 8 and Figure 9, is 1.83 per cent. A fair figure for an association to set as a goal is 1¾ per cent. Yet the shrinkage of gasoline among 12 companies during 1925 varied from 1.14 to 3.78 per cent, and among 33 companies during 1927 it varied from 0.64 to 3.86 per cent for the accounting period. The loss in kerosene should not average over 0.5 to 0.75 per cent. Shrinkage is largely the result of evaporation and mechanical losses in handling, but it could be more easily controlled than at present if stock account records showed volume of in-shipments, if sales and stock inventories were kept for each product and weekly or semimonthly checks were made on the quantity lost. Moreover it occasionally happens that loss may be due to a leaky pipe or tank and close supervision may prevent serious loss to the company.

TABLE 8.—*Gasoline shrinkage for 33 cooperative oil associations, 1927*

Association No.	Shrinkage	Association No.	Shrinkage
	Per cent		*Per cent*
30	0.64	39	1.75
18	.80	15	1.75
25	.94	9	1.79
13	.96	34	1.93
37	1.15	12	1.97
22	1.37	3	2.06
16	1.37	19	2.12
27	1.38	10	2.12
11	1.39	23	2.25
28	1.39	1	2.30
24	1.52	36	2.65
40	1.57	26	2.77
17	1.60	5	3.04
38	1.63	6	3.47
8	1.65	14	3.86
21	1.68		
2	1.70	Average	1.83
33	1.75		

DELIVERIES

Tank wagons serve patrons within a radius of 8 to 12 miles from the distributing point; in a few instances they go as far as 20 miles. Undoubtedly, the location of patrons has an important influence upon delivery expense, but the needs of patrons, which vary not only among associations but from season to season throughout the year, are probably equally significant in the problem of economical delivery service. Some confusion in routing and unnecessary retracing of routes often exists. These defects are undoubtedly partly due to keen competition and perhaps can not well be avoided. Some of the duplication could be avoided by more thorough control of the routing of trucks by the manager and better cooperation of members as to the time of delivery and the quantities delivered. Restricting membership campaigns to given localities would also contribute to the reduction of delivery expense as members would then be located near each other.

Two associations furnish a part or all of the gasoline and oil used in trucking, but this practice is not generally looked upon among cooperatives as desirable. The prevailing opinion among managers is that truck drivers should supply and be responsible for their own trucks, including the fuel and oil for operation, because by this method trucking can be done more economically and hence, in the long run, more cheaply for the association. It has been discovered, however, that in cases where this policy is followed, care must be exercised to employ drivers who can be relied upon not to avail themselves of opportunities for taking gasoline and lubricating oil from the company's or from customers' stocks.

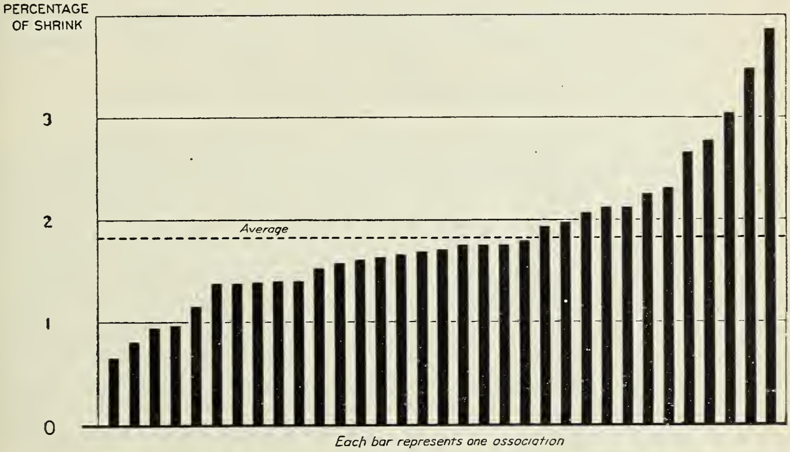

FIGURE 9.—GASOLINE SHRINK FOR 33 COOPERATIVE OIL ASSOCIATIONS, 1927

The wide variation in shrinkage shows the need of close supervision over operations and supplies. The average shrinkage is approximately 1¾ per cent.

BUYING POLICIES

Cooperative oil associations usually buy petroleum products from brokers and jobbers, the type of service desired being the principal determining factor in the selection of a wholesale dealer. Brokers deal only in car-lot quantities and act as agents between refineries and buyers. They do not, as a rule, maintain central warehouses but attempt to place their orders so that cars go direct from refineries to local distributing points, ready to be reconsigned on short notice. They sell products on specification but make little use of brands. Kerosene, gasoline, and distillate products that can be handled in carload quantities by retail oil companies are therefore the chief products that are bought through brokers.

Jobbers, on the other hand, purchase outright from refineries and resell to local agencies. They usually have large central storage plants, although much of their business is handled in the form of reconsignments. Gasoline, kerosene, and distillate are sold according to specification, but considerable use is made of jobbers' brands in the sale of gasoline. Jobbers have a heavy trade in lubricating oils, as most local companies do not have the facilities or the requisite volume of business to handle car-lot purchases of oils conveniently. Brands are used more extensively in the wholesale market by jobbers when handling lubricating oils than when selling other petroleum products.

If a cooperative buys from a jobber and uses his brands, the association usually agrees to purchase all of its gasoline from the jobber or to forfeit the use of his trade name. The jobber, in turn, not only fills all orders for gasoline and adjusts shortage claims, but also furnishes pump heads for service-station pumps, road signs, and other incidental means of advertising the brands handled. The local associations receive 1 per cent discount for cash and "30 or 60 days net" on all purchases of petroleum supplies from both brokers and jobbers.

The value of the grease handled represents only a small part of the total business for any local oil association. Some jobbers and manufacturers of grease make a specialty of putting it up in convenient cans or pails with the association's own name or trade-mark on the container.

Few purchases of gasoline are made on contract. If contracts are used for gasoline, they almost always call for specific quantities to be taken during the year at a given margin below the general service-station price. This is known as a marginal contract. Contracts are more common, however, in the purchase of lubricating oils. A few cooperative associations make some use of this method of purchasing oils. The general practice is to contract for a year's supply late in the fall or early in the winter. The contract calls for the purchase of a definite quantity at a specific price, the oil to be delivered on demand during the following year. In those cases in which the manager and officers of a local association are not familiar with the petroleum trade and do not understand the technicalities of contracts the tendency is to avoid the use of contracts.

PRICE POLICIES

Cooperative oil associations follow the general price policy of other bulk and service stations.[7] They attempt to sell at prevailing prices. Moreover, no discrimination is made in price or in service to members and nonmembers. Any savings that remain after allowance has been made for reserves and interest on capital stock are returned to patrons (members and nonmembers) as patronage dividends. There is, therefore, no incentive for the associations to sell at a lower price than their competitors.

In spite of the fact that cooperative associations sell at prevailing prices, gasoline-price wars have been unusually frequent in some sections of Minnesota where associations are numerous. The strong bid which oil cooperatives make for this business because of the savings they have shown has no doubt been an important factor in precipitating these wars. Cooperative oil associations may possibly expect more competition of this nature in the future where private oil companies are numerous and compete for trade in the same territory.

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[7] "In the great region in which the Standard Oil Co. (Indiana) operates, independent marketers recognize the Standard Oil Co. as the leader in price movements; and these independents endeavor to keep themselves informed as to Standard price changes in order to remain in line with them." United States Federal Trade Commission. LETTER OF SUBMITTAL AND SUMMARY OF REPORT ON GASOLINE PRICES IN 1924. 24 p. [Mimeographed.]

The tank-wagon price of gasoline among these associations is commonly 2 cents lower than the service-station price, although during part of 1927 and 1928 the practice of giving a quantity discount of 1 cent per gallon on all sales of 50 gallons or more, practically resulted in a differential of 3 cents between tank-wagon and service-station prices. This latter trade practice was discontinued in the fall of 1928 by the larger oil companies that operate in this territory. Less capital is required to operate tank wagons than to maintain a service station, and sales are made in larger quantities. Some spread in price between the two types of sales, is, therefore, logical. Kerosene and distillate are sold almost entirely through tank wagons. A sliding scale of prices on lubricating oils and greases is used so that patrons who buy at service stations pay somewhat more than do patrons who purchase in larger quantities from tank wagons.

DISTRIBUTION OF SALES

Retail sales of petroleum products are subject to wide seasonal fluctuations because of the limitations that weather and road conditions place on the use of motor vehicles. Figures 10 and 11 and Tables 9 and 10, which show the seasonal distribution of shipments of gasoline, kerosene, and distillate into Minnesota and of purchases of these products by cooperatives, clearly illustrate this fact.[8] Sales of kerosene and distillate vary more from month to month, but the volume of sales of these two products is only one-seventh and one-thirteenth of the volume of gasoline used in Minnesota in 1927.

TABLE 9.—*Index numbers showing seasonal distribution of shipments of gasoline, kerosene, and distillate into Minnesota, 1924–1927*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average [1]
Gasoline:													
1924	60	46	63	89	101	118	145	135	136	125	109	73	100
1925	55	58	61	109	107	116	138	128	129	113	99	87	100
1926	70	63	62	96	119	117	138	133	124	116	92	70	100
1927	50	61	82	92	107	123	132	144	132	114	103	60	100
Average	59	57	67	97	109	118	138	135	130	117	101	72	100
Kerosene:													
1924	83	86	92	113	97	102	77	106	132	129	100	83	100
1925	76	81	79	105	80	84	83	149	156	123	101	83	100
1926	97	72	78	119	140	69	98	131	130	107	95	64	100
1927	55	92	104	86	146	93	77	140	147	107	96	57	100
Average	78	83	88	106	116	87	84	131	141	116	98	72	100
Distillate:													
1924	234	63	60	63	36	10	9	35	109	119	170	292	100
1925	228	126	109	18	12	12	33	67	56	179	161	199	100
1926	166	140	95	68	26	16	15	50	111	141	163	209	100
1927	174	147	71	52	41	51	32	49	91	132	130	230	100
Average	201	119	84	50	29	22	22	50	92	143	156	232	100

[1] Using 100 as the average monthly shipment for the year.

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[8] Purchases of these petroleum products are considered a fair index of the sales, when taken for a large number of companies, because local oil dealers do not make a practice of storing these products for any appreciable length of time. Possibly the volatile nature of gasoline is an important factor in limiting this practice.

TABLE 10.—*Index numbers showing seasonal purchases of gasoline and kerosene by cooperative oil companies in Minnesota, 1926–27*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average[1]
Gasoline:													
1926	61	62	69	103	109	98	123	142	127	140	95	71	100
1927	41	62	100	71	131	86	120	154	161	114	106	54	100
Average	51	62	84	87	120	92	122	148	144	127	100	63	100
Kerosene:													
1926	61	85	64	139	134	47	79	185	167	66	106	67	100
1927	46	84	66	85	162	62	81	147	215	114	88	50	100
Average	53	85	65	112	148	54	80	166	191	90	97	59	100

[1] Using 100 as the average monthly shipment for the year.

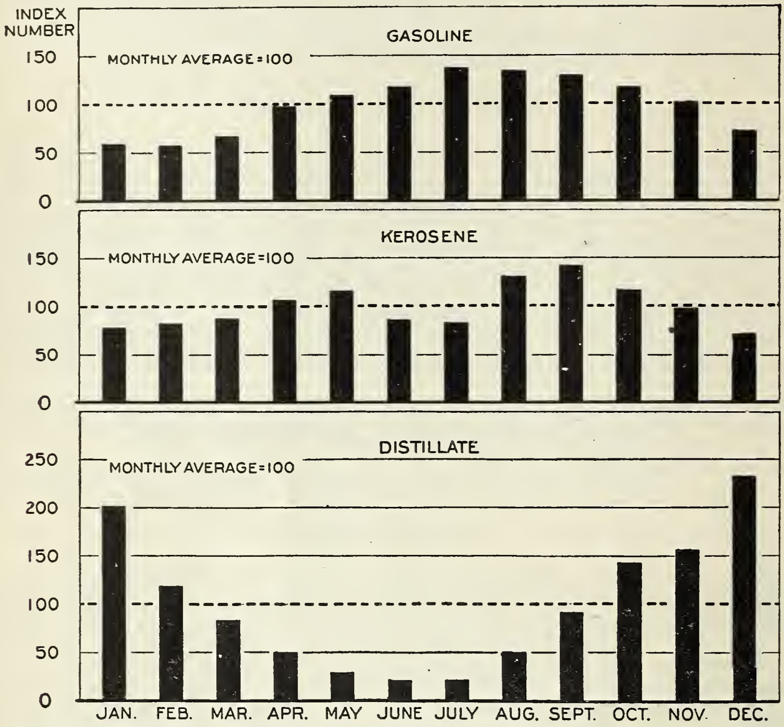

FIGURE 10.—SEASONAL DISTRIBUTION OF SHIPMENTS OF GASOLINE, KEROSENE, AND DISTILLATE INTO MINNESOTA, 1924–1927

Shipments of gasoline, kerosene, and distillate into Minnesota follow the seasonal uses of these products rather closely. Purchases or shipments for a large number of companies are considered a fair index to sales, as oil dealers do not make a practice of storing these products.

Cooperative oil associations that derive most of their business from farmers have five months of heavy business and four months of light sales with a medium volume in the periods between. (Fig. 11.) Analysis shows that sales of kerosene have a greater seasonal fluctuation than do those of gasoline. April and May are months of largest sales in the spring; after a short slack period, August and September follow with the highest volume of the season. This may be explained largely by the fact that from 70 to 90 per cent of the business is with farmers in a section in which tractors are common. These tractors are used to some extent during April and May, but are used mostly during the latter part of July and during August, September, and October for threshing, plowing, and silo filling.

Abnormal weather conditions or unusually late or early seasons may affect considerably the distribution of sales. The cold, wet weather in the spring of 1927 probably accounts in large measure for the small purchases by cooperatives in April of that year. Purchases for the entire State had a similar slump in April although not so marked. Again, in districts in which tractors are less common one may expect to find the per capita sales lower and to find the period of heavy business somewhat extended and less prominent.

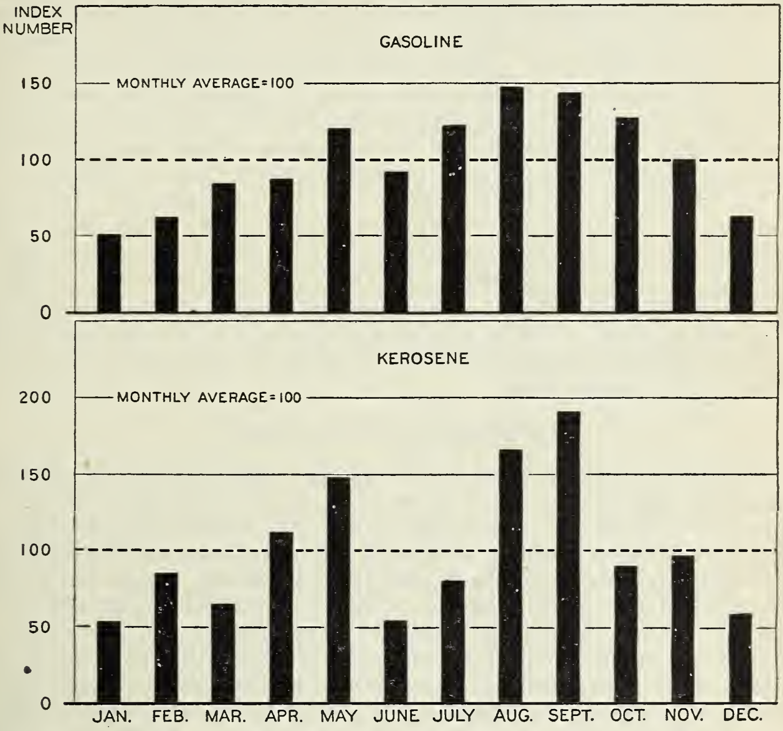

FIGURE 11.—SEASONAL DISTRIBUTION OF PURCHASES OF GASOLINE AND KEROSENE BY COOPERATIVE OIL ASSOCIATIONS IN MINNESOTA, 1926-27

April and May are the months of heaviest sales of gasoline and kerosene in the spring. After a short slack period, August and September follow with the highest monthly volumes of the season.

Demand for high-test gasoline, on the other hand, comes chiefly during the winter months—November, December, January, February, and March. Sales of this grade of gasoline are, however, only a small part of the total gasoline sales. Distillate is used widely for fuel in oil furnaces; therefore, the bulk of the sales are in the fall and winter months. Only a few of the associations handle distillate.[9]

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[9] Over two-thirds of the distillate shipped into Minnesota is distributed in Minneapolis and St. Paul.

The monthly sales of lubricating oils and greases vary approximately in proportion to those of kerosene and gasoline. Sales of kerosene and gasoline represented from 80 to 90 per cent of the total business of the associations studied, and sales of gasoline were from three to four times as large as those of kerosene.

Seasonal variations create difficult management problems of financing and of utilizing plant, labor, and trucks. Large amounts of capital, needed for the handling of peak loads, may lie idle at other times of the year, unless these additional amounts are supplied by short-time loans that mature as the volume of sales declines. Plant, labor, and trucks that are provided to handle the peak loads can not be fully utilized during much of the year. Thus those associations that have the largest seasonal variations in volume tend to have the highest operating costs. This problem may be partly solved by the use of the labor and equipment beyond a capacity that can not be sustained continuously—as represented by long days of service for trucks and truck drivers during busy seasons. Handling of side lines does not seem to offer much opportunity for better utilization of capital and labor during slack periods. Such possible side line commodities as coal and feeds are not adaptable to the plant and equipment of an oil association. Moreover, they are usually already handled by other cooperatives in the same communities. Adjustment of such variable cost factors as extra labor, clerical assistance, and similar items to offset seasonal variations in volume, therefore, becomes relatively more important because of the limitations to cost reduction by other means.

DISTRIBUTION OF SAVINGS

Savings of a cooperative oil association, after all operating costs including depreciation have been deducted, are usually divided as follows: (1) Interest on capital stock, (2) reserve for permanent surplus, and (3) patronage dividends. The interest on capital stock, as fixed by boards of directors, has been uniformly 8 per cent on the par value of the paid-in capital. Ten per cent of the remainder is then set aside annually as a reserve or permanent surplus, until it reaches an amount equal to at least one-half the paid-in capital stock. The remainder is distributed in the form of patronage dividends. The general cooperative law of Minnesota,[10] under which most of these associations are organized, makes similar but more detailed provisions for the disposition of savings.

The amount of savings which these associations have realized for patrons is substantial when measured in percentage of capital stock or in percentage of dollar sales, although there is a wide variation in efficiency between associations giving similar service. When measured in percentage of capital stock (Table 11), savings ranged from 16 to 154 per cent of paid-in capital for the fiscal year 1927. No association showed a loss. The average for all associations was 69 per cent of the capital stock. These savings amounted to 10.3 per cent of the sales during 1927. After 8 per cent interest had been deducted and one-tenth of the remainder set aside for permanent surplus as provided in their charter and by-laws, there still remained 8 per cent of the amount of sales available for patronage dividends.

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[10] MINNESOTA, LAWS, STATUTES, ETC. Op. cit. [Ch. 326, Minn. Sess. Laws 1923].

TABLE 11.—*Savings available for surplus and dividends as percentage of capital stock, 40 cooperative oil associations, 1927*

Percentage of capital stock	Associations	Average	Percentage of capital stock	Associations	Average
	Number	*Per cent*		*Number*	*Per cent*
25 and less	4	17.2	76 to 100	8	87.0
26 to 50	11	39.0	101 and over	8	128.2
51 to 75	9	60.0			

The two principal bases for distributing patronage dividends are "per cent of dollar sales" and "cents per gallon or pound." The former method assumes that the per cent profit is the same on each dollar of sales whether it is spent for gasoline or for lubricating oil. This is only partly true. The method, however, has certain advantages in that it is simple and the dividends are easily determined, that all commodities are included, and that it does not attempt to state the exact saving per unit of the various products. It is therefore less likely to invite price-cutting competition or misunderstandings among competitors.

If the per gallon or unit basis is used, dividends are paid only on the principal products such as gasoline, kerosene, and sometimes lubricating oils. Dividends paid on this basis are often wrongly and unwisely called "rebates," even by managers and officers. In rare cases the term has been used in annual statements. The distribution of so-called rebates naturally arouses the antagonism of competing companies, and the size of the rebate per unit suggests a basis for price cutting by competitors. In reality these patronage refunds at the end of the year by cooperative associations are not rebates in the usual meaning of the term. They are savings which are divided in proportion to patronage rather than on the ownership of capital stock. Much less practical difficulty and misunderstanding has been experienced in those cases in which the "per cent of dollar sales" has been chosen as the basis for the distribution of patronage dividends.

Members and nonmembers are paid the same dividends on patronage, but nonmembers are required to purchase a share of stock with these dividends before they receive any cash, although two associations pay only on members' patronage and one association pays members and nonmembers alike without requiring the ownership of stock.

The service-station patrons and the tank-wagon customers of these associations share alike in the savings. The dividends on sales that are made through curb pumps controlled by associations but operated by stores, garages, and the like, are handled in a number of ways. In several cases the operator receives the dividend just as any other purchaser. In other instances the operator acts only as an agent on a fixed margin and passes on the gasoline dividends to the final user, expecting thereby to increase the volume of his sales sufficiently to offset the lower margin per unit. In other cases, the operator is given the choice between the dividends on patronage and discounts for quantity purchases.

GROSS INCOME AND SAVINGS

Gross income is the difference between cost of goods and sale price after allowance has been made for differences in opening and closing inventories. The cost of goods includes the price paid for petroleum products, plus freight, inspection fees, and gasoline tax. Inspection fees and gasoline taxes are treated in this manner because they are the same for all oil companies.

The gross operating income of 40 associations during 1927 was 27.4 per cent of sales, and for 12 associations during 1925 it was 26.3 per cent of sales. (Table 12.) This represents an operating margin of 4.5 cents per unit of volume for 40 associations during the 1927 accounting period, and 4.8 cents for 12 associations during the 1925 period. The smaller operating margin per physical unit during 1927 represents a higher percentage of sales because of the lower price at which petroleum products were sold during that year. Variations in gross income are due to variations in cost of goods, variations in shrinkage, and differences in sales policies. The saving per unit of volume was 1.7 cents in 1927 and 2.2 cents in 1925.

TABLE 12.—*Gross income, operating cost, and net savings for cooperative oil associations, 1925 and 1927*

Year	Associations	Per unit of volume			Percentage of sales		
		Income	Operating cost	Saving	Income	Operating cost	Saving
	Number	*Cents*	*Cents*	*Cents*	*Per cent*	*Per cent*	*Per cent*
1925	12	4.8	2.6	2.2	26.3	14.4	11.9
1927	40	4.5	2.8	1.7	27.4	17.1	10.3

Variations in the cost of goods may result from several factors, some of which are beyond the control of the local association: (1) Central market prices for petroleum products fluctuate just as do prices for other commodities. This raises or lowers the cost of the goods to the association as the central price rises or falls. (2) Size of individual purchases affects the cost of goods, especially of lubricating oil, because carload quantities are usually slightly lower in price and freight rates for such lots are relatively cheaper. (3) The proportions in which the various products are handled affect the gross income; the records of 16 associations for which this figure could be determined by commodities show that the operating margin on lubricating oils and kerosene was higher than on gasoline and greases. (4) Any rise or fall in the refinery price or in the retail price, without a corresponding change in the other, may raise or lower the operating margin. This is particularly noticeable in the case of a local price war which does not affect the whole district.

Effect of shrinkage on gross income, although important, could not be determined in this study because it could not be accurately calculated for each product and because it is not an out-of-pocket expense. The amount of shrinkage and methods of control have been discussed.

An analysis of the gross income for 16 associations during 1927 (Table 13), indicates a wide variation in operating margins for different petroleum products as well as for different associations. The operating margin on gasoline ranged from 2.3 cents to 5.7 cents per gallon, with an average margin of 4 cents. Part of this variation is no doubt due to local price wars affecting the retail price of gasoline. Less variation is found in the margins on kerosene and distillate; the average is 4.3 cents per gallon. The wide range of 3.3 cents to 9.8 cents per quart on lubricating oil is characteristic of this type of sales. The retail price of oil when sold from tank wagons is less standardized than that of gasoline, kerosene, and distillate. Moreover, purchases are not uniform because some associations make a practice of purchasing lubricating oil in carload lots and others purchase only a few drums at a time. The average operating margin of 5.8 cents per quart or 23 cents per gallon is probably a fair index of the gross income on lubricating oil when the greater part of it is distributed through tank wagons. The margin on sales of grease averaged 3.1 cents per pound. When measured in percentage of sales, the average gross income was approximately 33 per cent of sales for kerosene, distillate, and lubricating oil, and 23 per cent of sales for gasoline for these associations during 1927. These figures would be somewhat higher if all sales were made through service stations, because of the higher retail prices with that type of service.

TABLE 13.—*Gross income by commodities, 16 cooperative oil associations, 1927*

Association No.	Gross income per unit of volume of—				Gross income in per cent of sales of—			
	Gasoline	Kerosene and distillate	Oil	Grease	Gasoline	Kerosene and distillate	Oil	Grease
	Cents	*Cents*	*Cents*	*Cents*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
1	3.49	3.66	6.10	4.53	21.3	30.0	35.3	39.6
2	3.79	4.10	4.65	2.89	20.8	29.5	29.2	28.5
3	3.71	3.97	6.32	2.40	23.6	33.3	36.3	20.6
6	2.31	3.84	6.43	3.65	15.3	30.1	42.3	27.1
9	4.68	3.75	9.42	2.80	25.0	26.5	54.1	28.6
11	5.14	4.38	4.16	2.54	26.3	29.9	25.5	22.8
12	4.53	4.08	6.17	4.16	22.4	27.3	36.6	30.4
14	3.18	4.30	5.78	4.31	19.5	33.9	32.3	38.6
16	4.08	3.90	4.86	4.00	24.5	30.2	27.5	36.2
18	4.55	4.45	6.48	1.30	24.9	32.4	36.6	11.3
19	3.70	5.09	4.87	4.18	23.7	40.6	29.4	18.2
22	3.13	3.90	3.72	2.73	19.5	31.0	23.3	24.3
23	3.42	4.21	3.27	2.88	21.9	34.4	19.4	22.4
34	5.69	4.85	6.45	----------	26.1	30.9	31.4	----------
35	5.03	4.45	3.97	3.26	25.3	31.9	21.2	11.9
36	3.92	5.26	9.80	4.43	24.9	41.6	56.4	39.2
Average	4.02	4.26	5.78	3.34	22.8	32.1	33.6	26.6

Saving, for 40 associations during 1927, after operating cost was deducted, ranged from 3.5 to 23.9 per cent of sales. The average was 10.3 per cent and 11.9 per cent for 12 associations during 1925. (Table 12.) Expressed in cents per unit of volume, the saving ranged from 0.53 to 4.13 cents and averaged 1.7 cents in 1927 and 2.2 cents in 1925. Since saving, as measured here, is merely the difference between gross income and operating cost, its variation depends entirely upon the relative size of these two items.

COST OF OPERATION

The operating cost in this study includes out-of-pocket expenses and reserve for depreciation. For the purpose of this analysis, 1 gallon of gasoline, kerosene, or distillate, 1 quart of lubricating oil, and 1 pound of grease are each considered a unit of volume. It is assumed that the cost of handling these commodities in these quantities is approximately equal. Since the side lines handled represent a very small percentage of the total business, they have been ignored in analyzing the operating cost.

The total operating cost of 40 associations (fig. 12 and Table 14) ranged from 2.1 cents to 3.9 cents per unit of volume and averaged approximately 2.8 cents. This is a wide variation in cost and shows the possibility for greater economy in operation for many associations.

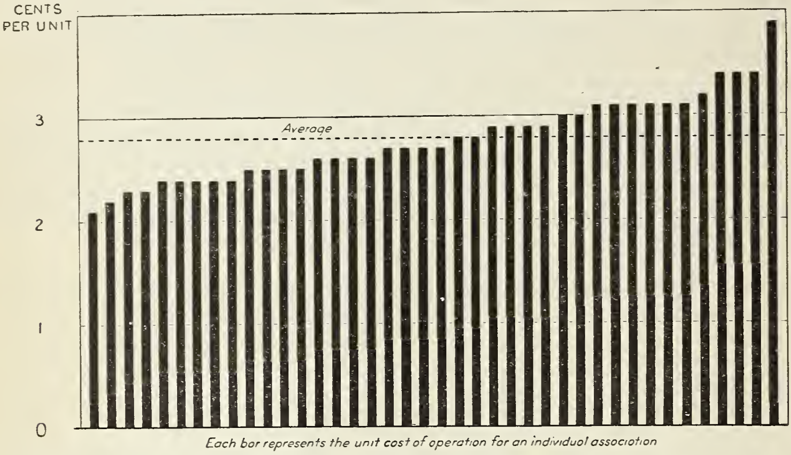

FIGURE 12.—UNIT COST OF OPERATION FOR 40 COOPERATIVE OIL ASSOCIATIONS, 1927

Cost of operation for 40 cooperative oil associations, in 1927, ranged from 2.1 cents to 3.9 cents per unit of volume.

One reason for this variation is the difference in volume of business. The total volume of sales varied from 54,000 to 1,424,000 units. The effect of volume on cost of operation is not clearly shown by the data because other factors such as differences in type of service, kind of plant, and wages paid are often relatively more important. When companies are classified according to the type of service rendered, the relationship is more evident.

TABLE 14.—*Unit cost of operation for 40 cooperative oil associations, 1927*

Association No.	Cost per unit of volume [1]	Association No.	Cost per unit of volume [1]	Association No.	Cost per unit of volume [1]	Association No.	Cost per unit of volume [1]
	Cents		*Cents*		*Cents*		*Cents*
18	2.1	6	2.5	29	2.8	3	3.1
17	2.2	22	2.5	27	2.9	12	3.1
16	2.3	8	2.6	36	2.9	31	3.2
40	2.3	39	2.6	20	2.9	32	3.4
26	2.4	11	2.6	35	2.9	1	3.4
10	2.4	24	2.6	25	3.0	38	3.4
28	2.4	19	2.7	5	3.0	30	3.9
13	2.4	14	2.7	34	3.1		
7	2.4	15	2.7	33	3.1	Average	2.8
23	2.5	37	2.7	9	3.1		
4	2.5	2	2.8	21	3.1		

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[1] 1 gallon of gasoline, kerosene, or distillate, 1 quart of oil, and 1 pound of grease are each considered a unit of volume.

Effect of volume on cost of operation (Table 15) becomes more evident when associations handling similar volumes are grouped.

Associations operating only bulk stations and handling from 200,000 to 400,000 units have the lowest per unit cost. This is largely because these associations were able to keep down their salary and travel expenses for reasons which can not be credited entirely to the influence of volume. Associations that own service stations but sell to the service-station operator as a subdealer are included as bulk companies in this analysis. The additional cost of plant is offset by lower delivery expense on service-station sales and therefore makes the two types of operation comparable for this analysis. The average cost of bulk-station operation was 2.68 cents for 28 associations during 1927.

TABLE 15.—*Cost per unit of volume for operating 28 cooperative oil association stations, 1927* [1]

Item	Costs for associations handling—				Average cost of 28 associations
	Under 200,000 units	200,000 to 399,999 units	400,000 to 599,999 units	600,000 units and over	
Operating expenditures:					
Bulk stations—	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
Delivery	1.58	1.59	1.46	1.37	1.54
Salaries and travel	.40	.24	.44	.41	.37
Interest	.13	.07	.09	.04	.10
Taxes and insurance	.11	.12	.14	.20	.13
Depreciation, repairs, and supplies	.20	.22	.25	.31	.23
Rent or leases	.02	.01	.03	.01	.02
Advertising and donations	.04	.02	.04	.03	.03
Light, power, water, and fuel	.03	.04	.03	.08	.04
Telephone and telegraph	.01	.02	.02	.04	.02
Office supplies	.09	.06	.06	.07	.07
Bad debts	.03	0	.03	.01	.02
Organization expense	.08	0	.02	0	.04
Miscellaneous expense	.07	.05	.10	.07	.07
Total	2.79	2.44	2.71	2.64	2.68
Bulk and service stations	3.35	3.15	2.92	2.77	[2] 3.02
	Number	*Number*	*Number*	*Number*	*Number*
Associations operating bulk stations	12	7	7	2	28
Associations operating bulk and service stations	2	4	2	4	12

[1] 1 gallon of gasoline, kerosene, or distillate, 1 quart of oil, and 1 pound of grease are each considered a unit of volume.

[2] Average cost of 12 associations.

The effect of volume on cost for associations operating both bulk and service stations is more evident. The total cost (Table 15) ranged from 3.35 cents for those with small volumes to 2.77 cents for those with volumes of over 600,000 units. The average was 3.02 cents. Similar relationship was found between volume and cost in 1925 for associations giving this type of service.

This variation in the effect of volume between these two types of associations is to be expected. The minimum cost of management, labor, plant, and site is much greater for service-station operation than for bulk-station operation. Associations that operate bulk stations only are in a better position to adjust these cost factors to volume than are associations that have both bulk plants and service stations. This is further evidenced by the fact that associations with small volume usually operate only bulk stations.

The major items of operating expense of cooperative oil associations are as follows: Delivery expense; salaries; interest, taxes, and insurance; and depreciation, repairs, and plant supplies. These constitute nearly 90 per cent of the total operating cost. It is in these items that the largest variation is found between the expenses of the different associations.

DELIVERY EXPENSE

Cost of delivery was the largest single item of expense and constituted on the average over half of the total cost. This cost represents mainly the commission paid tank-wagon operators for deliveries to patrons and to curb pumps and service stations. The truck drivers usually supply the truck chassis and care for all operating expenses including fuel cost of gasoline and oil. The cost of the truck tank should ordinarily be considered as a part of this expense, but in this study it could not be separated from other costs. It would not, however, have an important effect on the size or variability of the delivery expense.

The principal reason for variation in delivery expense is found, therefore, in the differences in commissions paid. The rates for deliveries to patrons living in town are most commonly 1 cent per gallon, whereas country deliveries carry a commission of 1½, 1¾, or 2 cents per gallon. Lubricating oils and greases are delivered for 5 to 10 per cent of the sales or a corresponding amount in cents per gallon of oil and pound of grease. One-half cent per gallon is usually paid for deliveries made direct to curb pumps and service-station tanks.

SALARIES

The salaries expense item includes the manager's salary if he is employed on a salary basis, the directors' fees, office salaries, and miscellaneous wages and travel. The wide range in salary costs is caused not only by differences in the amount of management hired and the rate of payment, but even more by differences in type of service and number of employees compared with the volume of business.

The managers are paid either a straight salary or a commission. In cases in which the association has only a bulk plant, there is a strong tendency to hire the manager on a commission basis and let him furnish the tank trucks and the extra labor. This fact largely accounts for the low salary and travel expense for associations handling from 200,000 to 400,000 units. (Table 15.) The commission rates in these cases ranged from 1½ to 2 cents per gallon of gasoline, kerosene, and distillate and from 5 to 10 per cent of the sales of lubricating oil and grease, or approximately the same as that paid truck operators. Managers who are hired on a salary basis usually receive $150 per month, although higher and lower salaries are paid, depending largely upon differences in duties and responsibilities.

Miscellaneous wages have a close relationship to the type of service offered to patrons because associations that operate both bulk and service stations include station attendants' salaries in this item. These associations have a higher salary item but slightly lower delivery cost. Moreover, the salary expense for these companies was 0.53 to 1.35 cents per unit of volume and was much lower as the volume increased. The average was 0.85 cent per unit of volume where service stations were also operated, but it was only 0.37 cent per unit of volume for companies operating only bulk stations. These associations pay service-station employees, other than the manager, from $85 to $110 per month.

Directors' fees include the compensation which members of the board of directors receive for their services and the allowance made for their expenses. The members of the board are paid at the rate of $2 to $3 per meeting or a specific annual amount which ranges from $75 to $150 in the different associations.

Office salaries are invariably higher if service stations are also operated, because of the additional bookkeeping and correspondence. Considerable difference in the amount of this expense is found even within a particular type of station, depending upon the detail with which the records are kept and the differences in the rate of pay for the same service. Some associations hire a full-time bookkeeper, whereas in other associations this work is left to the manager or secretary.

INTEREST, TAXES, AND INSURANCE

The cost for interest, taxes, and insurance varied from 0.09 to 0.53 cent per unit of volume, with an average of 0.23 cent per unit. Interest includes only the amount paid for the use of borrowed capital and is shown separately to indicate the cost of borrowed capital. Only three associations had no interest charge; the average was 0.1 cent per unit. Borrowed capital is relied upon most heavily during the peak-load season. Taxes vary with the value of plant and equipment and with differences in local rates of taxation. Variations in insurance costs of oil stations depend upon the completeness of insurance, the value of property insured, and the rate of insurance paid. The cost of interest, taxes, and insurance varies between associations principally because of the reasons suggested, but within a single plant the total cost remains nearly constant and the cost per unit is lowered as the volume of business for the plant increases. The State tax of 2 cents per gallon on gasoline is not included as a cost of operation but is included as a cost of gasoline at the time of purchase.

DEPRECIATION, REPAIRS, AND PLANT SUPPLIES

Depreciation and repairs are represented mainly by building and equipment costs. The items are largely fixed in actual total amounts. They vary, therefore, in per unit costs between plants and within a plant from year to year, principally according to the volume of sales. Plant supplies are included with depreciation and repairs and are largely of the nature of plant equipment. Depreciation on building and plant is computed usually at the rate of 5 per cent annually and on general equipment at 10 per cent a year for these companies. The accountant's allowance when auditing their books is accepted in all cases. The average total repair and depreciation cost for the 28 associations was approximately 0.23 cent per unit of volume.

RENTAL EXPENSE

Rental, in most cases, is a comparatively small item of expense and in no case exceeded 0.12 cent per unit of volume. The average rental expense for the 28 associations was 0.02 cent per unit of volume.

ADVERTISING

Advertising was a very small item of expense and for 28 associations averaged only 0.03 cent per unit of volume. A cooperative oil association enjoys a good will in a community that other competitive companies often do not have and depends less upon advertising as a means of attracting customers. Most of its advertising costs are for billboards, attractive signs at the service station, and occasionally for space in the local newspaper.

LIGHT, POWER, WATER, AND FUEL

Associations which operate service stations have slightly higher expenditures for light, power, water, and fuel than do associations which operate only bulk stations. The average for bulk companies was 0.04 cent and for bulk and service companies 0.06 cent per unit. Some difference is found in amounts of light and power used in service stations and in the rates charged for them.

TELEGRAPH AND TELEPHONE EXPENSE

Expense for telegraph and telephone is a small item. The highest cost per unit of volume was 0.05 cent and the average cost for 28 associations was 0.02 cent. Telephone and telegraph expense include charges for a local telephone and for long-distance calls and telegrams sent principally on matters relating to the purchase of petroleum supplies.

OFFICE SUPPLIES

In this study, the expense of office supplies does not include office help, which has already been included under "salaries," but does include postage, stationery, account books, forms, and other office supplies. This charge varies largely with the quantity of these supplies purchased during the year. The average cost of office supplies for 28 associations was 0.07 cent per unit of volume.

BAD DEBTS

Not all associations set up a reserve for bad debts, although it is considered a very desirable practice where sales are made on a credit basis. Some associations make other provisions to protect themselves against loss in this form, as explained earlier. Two associations had lost several hundred dollars in bank failures, and in this analysis part of this loss is included under bad debts. The average loss from bad debts for 28 associations was slightly over 0.02 cent per unit.

ORGANIZATION EXPENSE

Associations usually prorate their organization expense over the first two or three years of operation. This cost for 28 associations, which was 0.04 cent per unit of volume, in 1927, is set up as a separate item because it is a cost which only new associations have.

MISCELLANEOUS EXPENSE

Miscellaneous expense includes out-of-pocket costs which do not properly belong under any of the other heads. It represents for 28 associations an average cost of 0.07 cent per unit of volume.

The problem of keeping costs to a minimum is largely a management problem, although it also depends on the economic organization of the association and upon type of service rendered. Continuous care must be exercised to keep commissions and salaries to a minimum because they represent a large percentage of the total operating cost and because they are the most variable. This can be done by careful adjustment of the amount of labor hired to seasonal needs as well as by keeping down unnecessary salary expense. Plant costs are less flexible, but they can often be reduced by better planning of plant operations. Shrinkage is an important cost although it is not a direct outlay of money. Other expenses, as individual items, are a small part of the total, but when considered together they are a considerable sum and deserve constant attention from the management.

OTHER COOPERATIVE ORGANIZATIONS HANDLING PETROLEUM PRODUCTS

The retailing of petroleum products is a business of sufficient size and importance in many communities to warrant the organization of associations for that purpose. A few scattered cooperative organizations, such as farmers' elevators, cooperative stores, and creameries, handle petroleum products as a side line. This practice is not extensive here and is usually limited to the handling of lubricating oil.

Only six farmers' elevators in Minnesota operated bulk stations and tank wagons during 1927. The retailing of gasoline and the handling of grain are two separate businesses, and labor and capital demands of the one fail to supplement those of the other. The peak-load periods of the two come at the same time of the year, and the building and equipment demands are entirely different. Separate employees must be hired to operate the delivery trucks, and even separate managers for the two enterprises may be necessary.

Cooperative stores usually limit their gasoline trade to the operation of a curb pump on a fixed retail margin, and purchase their wholesale gasoline supplies from a local oil company. Probably the reason they have not developed this side line more extensively is that it does not permit much better utilization of the labor and plant of a retail store, and it may demand too much attention from the store attendants.

Farmers in three separate counties are known to have made arrangements through the county farm bureau to have a commercial oil company supply them with petroleum products at a fixed retail margin and return any profits from this part of the business to the county farm organization. The farm bureau serves in the capacity of a bargaining association for its members and prorates the dividends on a patronage basis. Some difficulty is experienced when arrangements are not clearly understood and are not followed by the dealer and by the members of the organization.

FEDERATION OF COOPERATIVE OIL ASSOCIATIONS

A federation of local cooperative oil associations, known as the Minnesota Co-op Oil Co., with headquarters at Minneapolis, was perfected in 1926. The purpose of this association is twofold: (1) To serve as a general overhead service and educational organization for locals; and (2) to act as a central wholesale purchasing agency. The former purpose was no doubt foremost in the minds of charter members at the time of organization, but greater emphasis has since been placed on the jobbing and brokerage business.

This federation is organized as a nonstock, nonprofit cooperative association under provisions of the Minnesota general cooperative law of 1923. Membership is open to any incorporated company that distributes petroleum products on a cooperative plan, upon payment of annual membership fees of $20 for the first bulk station and $5 for each additional bulk or service-station operated by the company.

Capital is provided only by means of membership fees. As a method of financing, this association has not found it very satisfactory. As locals are reluctant to pay large annual dues, the capital provided is extremely limited, in view of the large volume of business transacted annually. In fact, the purchasing department was built up without the aid of outside capital or the use of membership fees, the latter going to the secretary for general office expense and reserve. Accordingly, all sales of gasoline and kerosene are made on a cash basis. However, locals that do buy through the association receive the same discounts on cash purchases as from any other jobbing or brokerage agency in the petroleum trade. Lubricating oils and grease are sold with 1 per cent discount when payment is made in 10 days or 30 days net.

During the year 1927 the State association sold 491 cars of gasoline and kerosene, approximately 4,000,000 gallons, at a wholesale value of $229,000.[11] This is the equivalent of one-fourth the volume sold by local cooperative oil associations in Minnesota during the same period. In addition, $25,000 worth of lubricating oils and grease and $16,000 worth of oil-station equipment and plant supplies were distributed by this cooperative agency.

A net saving of one-third of the commissions was realized on this business, after operating expenses, which include cost of miscellaneous services, were deducted. The ordinary wholesale or brokerage commission is one-eighth cent per gallon on gasoline and kerosene. Commissions on lubricating oils, equipment, and supplies are somewhat higher. Possibly in some instances economies were realized in the form of better quality and more favorable prices, but these were passed on directly to local associations.

The general plan of operation is for this central association to perform the same general services as a regular jobber or broker in the trade. Market quotations are used as a guide in determining prices. Savings at the end of the year, after operating expenses and required reserves have been deducted, are distributed on a patronage basis. Members and nonmembers are treated alike, but nonmembers share in cash dividends only after an amount equal to the annual membership fee has been deducted and a membership certificate issued.

Local cooperative oil associations are not bound by contract to purchase through the central association or to use its other services. They may purchase any part or all of their supplies through the association according to their preference. Obviously this is a very loose arrangement upon which to operate a large central organization, and immediately it presents the difficult problem of securing and maintaining adequate volume of business for efficient operation.

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[11] Charges for freight, inspection, and gasoline tax were not included.

Local cooperative oil associations in Minnesota hesitate to subscribe to a contract which binds them rigidly to the State federation for any appreciable length of time. Possibly a reorganization of the State association and the issuing of capital stock to local associations offers more opportunity for improvement in membership relations and in the financial policy which has been discussed earlier. A plan of this character would create substantially the same relationship between the State association and the locals that now exists between the local association and its individual members.

Aside from the jobbing and brokerage business, the Minnesota Co-op Oil Co. renders several services. Prospective associations are given counsel and assistance in perfecting their organizations. A weekly news letter, giving price quotations and market information of a general character, is provided for members. A system of standard records and accounting forms has been prepared and is sold at a nominal price. A cooperative brand for gasoline and two brands for lubricating oils are being developed. These services can be made more complete and extensive and will no doubt be improved as the association becomes older and more firmly established.

COOPERATIVE OIL ASSOCIATIONS IN ILLINOIS [12]

Because of the contrast in type of organization with the cooperative oil associations in Minnesota, a brief description is given of those in Illinois.

Farmers' cooperative oil associations in Illinois are organized on the county plan. They are closely related to the farm bureau county organizations and to a central purchasing agency. The first county association in that State was organized in 1926, and the number increased rapidly to 20 associations in March, 1928. The plan of organization provides for two issues of stock, of which common stock is without par value and is issued to farm bureau members in good standing in the county. Capital is provided through the issue of preferred stock, the par value of which ranges from $25 to $100 a share. Both issues of stock carry voting power. A common-stock holder is entitled to participate in the distribution of net savings upon the basis of patronage so long as he remains a member of the county farm bureau. Preferred stock entitles the holder to dividends ranging from 6 to 8 per cent but does not entitle him to participate in the patronage refunds. This plan of organization is quite different from that commonly adopted in Minnesota.

Petroleum products are distributed through bulk plants and tank-truck service in the manner described earlier. However, less emphasis is placed on retail service through service stations; only 2 of the 20 associations give this type of service. These associations are, therefore, more strictly serving farmers, and less appeal is made for town and tourist trade.

Operating statements were available for seven associations which operated during all or the major part of 1927. A summary of the gross income, operating costs, and net savings is given in Table 16 for each company, in percentage of sales and in cents per unit of volume. The average operating cost in cents per unit is 3.2 as compared with 2.8 for 40 associations in Minnesota. This higher cost can be accounted for largely in the higher delivery expense. Possibly differences in road conditions are reflected in higher commissions paid truck operators. The range in total operating costs is, however, within the limits already found for associations operating in Minnesota during the same period. Detailed analysis of costs for Illinois associations is not given, because of the small number for which cost data were available.

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[12] Data for this section were obtained through the Illinois Agricultural Association.

TABLE 16.—*Gross operating income, operating cost, and net savings for seven cooperative oil associations in Illinois, 1927*

Association No.	Per unit of volume [1]			Percentage of sales		
	Gross income	Operating cost	Saving	Gross income	Operating cost	Saving
	Cents	*Cents*	*Cents*	*Per cent*	*Per cent*	*Per cent*
1	4.45	3.08	1.37	33.2	23.0	10.2
2	4.79	3.03	1.76	31.8	20.1	11.7
3	4.59	3.23	1.36	33.0	23.2	9.8
4	4.42	3.53	.89	32.8	26.2	6.6
5	4.08	3.17	.91	29.3	22.8	6.5
6	4.37	3.20	1.17	34.6	25.3	9.3
7	3.81	3.39	.42	29.1	25.9	3.2
Average	4.36	3.23	1.13	32.0	23.8	8.2

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[1] 1 gallon of gasoline, kerosene, or distillate, 1 quart of oil, and 1 pound of grease are each considered a unit of volume.

ILLINOIS FARM SUPPLY CO.

The Illinois Farm Supply Co. is a central overhead service and purchasing agency for the county oil associations, and is closely associated with the Illinois Agricultural Association. It was incorporated March 7, 1927, under the provisions of the cooperative marketing act of the State of Illinois and began its actual operations on April 1 of that year. The organization is a successor to the Farm Bureau Supply Co., which reorganized under the plan formulated by the Illinois Agricultural Association. Fifteen of the twenty county associations are members.

The Illinois Farm Supply Co. differs from the Minnesota Co-op Oil Co. principally in method of providing operating capital and in its relationship to the local units. The financing of the Illinois company is accomplished through the sale of preferred stock to member county units in amounts equal to 10 per cent of their own paid-in capital. Three issues of stock are provided: One is designated as common stock without par value and entitles the member company to participate in the distribution of net savings on the basis of its patronage. Preferred A stock is issued at the par value of $100 per share and bears cumulative dividends at the rate of 7 per cent per annum. Preferred B stock has a par value of $1 per share and the entire issue of 2,500 shares is held by the Illinois Agricultural Association. The different classes of stock carry equal voting power. The administration of the company consists of a board of nine directors who are elected by the delegates of the member associations at its annual meeting.

County associations are closely linked with the central agency by means of contracts which require all member units to purchase exclusively all supplies through its agency. The contract further specifies the amount of class A preferred stock to be subscribed and that records and audits shall be under the supervision of the State association. This arrangement gives extensive supervisory power to the State association and assures it the full patronage of member units.

Sales for the nine months of operation during 1927 amounted to 399 cars of gasoline and kerosene or the equivalent of slightly over 3,215,000 gallons. Lubricating-oil sales amounted to 106,000 gallons, and sales of grease amounted to 48,000 pounds for the same period. Emphasis is placed on quality in these sales, and the Farm Supply Co. maintains a laboratory service for the control of quality of goods purchased for its member companies. It is perhaps too early to make a critical analysis of cooperative purchases of petroleum products in the central markets, but if the early sales of the Minnesota Co-op Oil Co. and the Illinois Farm Supply Co. may be taken as an indication of their future success, it seems reasonable to expect that central cooperative purchasing agencies will develop in regions where local cooperative oil associations are numerous and active.

SUMMARY

Minnesota cooperative oil associations increased in number from 1 in 1921 to 48 in 1927. The 48 associations operated 27 service stations and 69 bulk stations in 1928.

Cooperative oil associations are organized as single community, multiple community, or county organizations, and the size of the territory they serve varies according to the type of the organization. Eighty-six per cent of the stockholders are farmers.

Cooperative oil associations sell at prevailing retail prices and prorate savings in proportion to patronage. Nonmembers' patronage dividends are credited toward the purchase of a share of stock before cash dividends are paid. Experience demonstrates that "dollar of sales" is a better basis for distributing dividends than "cents per gallon or pound."

Substantial savings have been realized by the cooperative oil associations. Average saving was 10.3 per cent of sales for 40 associations during 1927 and 11.9 per cent for 12 associations during 1925. This represents a saving of 1.69 cents and 2.17 cents per unit of volume for the two accounting periods. (One gallon of gasoline, kerosene, or distillate, 1 quart of oil, and 1 pound of grease are each considered a unit of volume in this analysis.)

The efficiency of business management varies widely between associations. Operating costs ranged from 2.1 to 3.87 cents per unit of volume for 40 associations during 1927. Volume of business seems to be relatively less important than are other factors in explaining costs of operating bulk stations. Costs of operating service stations, on the other hand, appear to vary inversely with volume.

A federation of State cooperative oil associations in Minnesota was perfected in 1926 to assist member associations with local-management problems and to act as a central purchasing agency for locals. This association handled 4,000,000 gallons of gasoline during 1927.

The success of cooperative oil associations thus far appears to be due chiefly to two factors: (1) The comparatively simple character of the business (a single line of well-standardized products), and (2) the substantial savings to patrons made possible in part by larger volume of business than that of private stations serving the same territory.

APPENDIX A.—SUGGESTED FORMS FOR ANNUAL STATEMENTS OF COOPERATIVE OIL ASSOCIATIONS

The following forms are suggested for annual statements of cooperative oil associations because they indicate the type of records that should be kept and because annual statements which are set up in this way make possible a clear analysis of the business:

SALES, COST OF GOODS, AND GROSS OPERATING INCOME, BY COMMODITIES, FOR YEAR ENDING ______________, 19____

Item	Gasoline	Kerosene	Distillate	Lubricating oil	Grease	Miscellaneous	Total
	Dollars	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
Sales							
Purchases							
Beginning inventory							
Freight							
Gas tax and inspection							
Total							
Ending inventory (deduct)							
Cost of goods							
Gross operating income (deduct cost of goods from sales)							

STOCK ACCOUNT SHOWING SHRINKAGE AND LOSS IN HANDLING

Item	Gasoline	Kerosene	Distillate	Lubricating oil	Grease
	Gallons	*Gallons*	*Gallons*	*Gallons*	*Pounds*
Beginning inventory					
Purchases					
Total quantity bought					
Less:					
Ending inventory					
Sales					
Total quantity measured					
Shrinkage (gallons)					
Shrinkage (per cent)					

OPERATING STATEMENT FOR YEAR ENDING ______________, 19____

Gross operating income		$________
Operating expense:		
Delivery expense—		
Drivers' commission	$________	
or		
Drivers' salaries	________	
Truck expense (including fuel and oil)	________	
Salaries—		
Manager's salary and expense	________	
Office salaries	________	
Directors' fees and expense	________	
Interest, taxes, and insurance—		
Interest	________	
Taxes	________	
Insurance	________	
Depreciation and repairs—		
Depreciation	________	
Repairs	________	
Plant supplies	________	
Rent or leases	________	
Advertising and donations	________	

Operating expense—Continued.		
Light, power, water, and fuel	----------	
Telegraph and telephone	----------	
Office supplies	----------	
Reserve for bad debts	----------	
General and miscellaneous expense—		
Audit	----------	
Organization expense	----------	
Miscellaneous	----------	
Total expense		----------
Net operating income		----------
Add other income (discounts received)		----------
Total		----------
Less other deductions		----------
Net savings for year		----------

Disposition of net savings:	
Interest on capital stock	$----------
Patronage dividends	----------
Reserve for permanent surplus	----------
Undivided surplus	----------
Total	----------

BALANCE SHEET ---------------, 19----

Assets

Current and working:		
Cash on hand and in bank		$----------
Accounts receivable	$----------	
Less reserve for bad debts	----------	

Notes receivable		----------
Merchandise inventory		----------
Prepaid expense		----------
Fixed assets:		
Land		----------
Bulk plant	$----------	
Service station	----------	
General equipment	----------	
Trucks	----------	
Office equipment	----------	
Total buildings and equipment	----------	
Less reserve for depreciation	----------	

Total assets		----------

Liabilities

Current:	
Accounts payable	$----------
Notes and mortgages payable	----------
Accrued expense	----------
Noncurrent	----------
Net worth and special reserves:	
Capital stock	----------
Reserve for permanent surplus	----------
Undivided surplus	----------
Net savings for fiscal year	----------
Total liabilities and net worth	----------

APPENDIX B.—SUGGESTIONS FOR ORGANIZING A COOPERATIVE OIL ASSOCIATION

The proper legal and economic organization of a cooperative oil association has much to do with its success. A few suggestions are therefore offered, on the basis of the experience of companies included in this study, to assist new companies in organizing properly.

A cooperative oil association should be incorporated. The investment is ordinarily too large, and the indebtedness is usually too great to organize on the basis of a partnership or association with unlimited liability. The procedure of incorporating varies in the different States. An attorney should be consulted, or some person familiar with the preparation of papers, filing of articles, and the requirements of the statutes of the State in which incorporation is contemplated.

Articles of incorporation should meet the requirements of the State statute under which the association is incorporated. Some of the matters that must usually be covered are the following: (1) The name of the association; (2) its purpose and the general nature of the business; (3) principal place of business; (4) period of its duration; (5) amount of its capital stock, number of shares and their par value; (6) the governing board and, under some statutes, a limitation on indebtedness.

Natural growth in membership and business should be provided for. The authorized capital stock should, therefore, be more than is needed for present requirements or more than the company is expected to sell in the immediate future.

The membership should, preferably, be widely distributed among patrons. A company with such a policy can better serve the community in which it is located and its volume of business increases automatically. The par value or price of a share of stock ought to be large enough to assure sufficient capital but yet not large enough to discourage membership. Twenty-five dollars is the par value per share of the stock of 45 companies of the 51 included in this study. The remaining associations have shares with a par value of $10, $12.50, $15, or $20. The limit of indebtedness to which the association may at any time be subject is usually set high enough to care for current business for short periods. The amount depends on the size of the organization. Usually, a sum of from $8,000 to $12,000 is the limit. The incorporation statutes of some States do not permit corporations formed thereunder to limit their indebtedness; the advisability of doing so in any case is one that should be considered. Generally speaking, such a limitation is not binding on third persons who deal with the association without knowledge that it is exceeding the limitation. If the officers of an association exceed the limitation fixed they are responsible to the association for losses suffered thereby.

Sufficient capital stock should be sold at the outset to pay for the plant and equipment and the organization expense. It is desirable to raise a somewhat larger amount to provide a part of the operating capital. It places the company in a better position to borrow the remainder of the capital requirements and to take the discounts offered for cash purchase of products. Substantial savings may be realized from these cash discounts. A minimum amount of $5,000 is desirable for a single bulk plant.

No rule can be formulated to answer the question whether a newly organized company should build a new plant or buy an old one, since much depends upon local conditions. In practice, cooperative associations have been about equally divided in the matter. Often an existing plant of the desired type can be purchased at a very reasonable price. Most associations have, however, followed the practice of starting with only a bulk plant and deciding later whether to operate a service station. This plan is safer than undertaking a new business with an expensive plant and equipment without previous experience.

A group which is planning to organize a cooperative oil association should familiarize itself with the nature of the retail oil business and its management problems. One method of securing such information, followed by many groups, is to visit three or four associations to obtain the results of their experience. It is desirable to have a good accounting system installed which is particularly adapted to this type of business.

APPENDIX C.—SUGGESTED ARTICLES OF INCORPORATION AND BY-LAWS FOR A COOPERATIVE OIL ASSOCIATION

The following forms of articles of incorporation and by-laws are suggested as a guide to groups that contemplate organization of cooperative oil associations. Proper modifications of and additions to the forms must be made in each case to conform to the requirements of any particular State and the provisions of the law under which the company is to be incorporated.

ARTICLES OF INCORPORATION OF THE ______________ OIL ASSOCIATION OF ______________ (State)

We, the undersigned residents of the State of ______________, do hereby associate together to incorporate a cooperative association under the act of ___________, ____________ and for that purpose do hereby adopt the following articles of incorporation.

ARTICLE 1

The name of this cooperative association shall be ______________________
____

ARTICLE 2

The purpose of this association shall be to engage in the business of distributing petroleum and its products on the cooperative plan. The general nature of its business shall be to deal in, handle, and distribute petroleum and various products and by-products thereof; also such commodities as are essential and necessary in the operation of the business of this association; to purchase, lease, build, construct, maintain, and operate warehouses, filling stations, pumping plants, and all other appliances and conveniences for use in connection with the purchase and sale of gasoline, petroleum, lubricating oils, and all other petroleum and oil products; to hold, lease, mortgage, encumber, sell, exchange, and convey such real and personal property as the business of the association may require; to join with other cooperative associations for forming district, State, and national marketing and service organizations; and to purchase, acquire, and hold stock therein; and it shall have power and authority, either for itself or its individual members and patrons, to do and perform every act and thing necessary and proper to the conduct of the business of this association permitted by the act under which this association is organized.

ARTICLE 3

The principal place of business of this association shall be in the ________ of ________________ in the county of ______________ and State of ______________, but it may have such other offices and places of business as may be deemed advisable.

ARTICLE 4

The term for which this association shall exist is ________ years.

ARTICLE 5

The amount of capital stock of said association shall be ____________ dollars ($____________), which shall be divided into __________ (__________) shares of par value of ____________ dollars ($____________) each.

The ownership of capital stock in this association by any individual stockholder shall not exceed the par value of one thousand dollars; stockholders shall be restricted to only one vote in the affairs of the association. Proxy voting is prohibited. Shares of stock shall not be transferable except with the approval and consent of the governing board of the association. Interest (dividends) shall not be paid on outstanding or paid-up capital stock of the association in excess of 8 per cent per annum, which shall be noncumulative. The net income of the association, except such amounts as by law are required to be set aside as a reserve fund or permanent surplus or as may be set aside by vote of the stockholders, available for distribution among the members, or patrons, or both, as the case may be and as may be prescribed in the by-laws, shall be distributed only on the basis of patronage.

ARTICLE 6

The names and residences of the persons forming this association are as follows, to wit:

NAMES	RESIDENCES
________________________	________________________
________________________	________________________
________________________	________________________

ARTICLE 7

The government of this association and the management of its affairs shall be vested in a board of __________ directors, each of whom shall be a stockholder of the association. Directors shall be elected by ballot as prescribed in the by-laws at the annual meeting of the stockholders, which shall be held at ________ o'clock ____ m. on the ______________ of each year. Directors shall hold office until their successors have been elected and shall have entered upon the discharge of their duties.

The names and places of residence of the directors of this association who shall hold office until the first annual meeting are as follows:

NAMES	RESIDENCES
________________________	________________________
________________________	________________________
________________________	________________________

In testimony whereof we, the said incorporators, have hereunto set our hands and seals this __________ day of ______________ 19____.

In presence of ______________________ [SEAL.]

______________________ ______________________ [SEAL.]

______________________ ______________________ [SEAL.]

STATE OF ____________

County of ____________, *ss:*

Be it remembered that on this __________ day of __________ A. D. 19____, before me, a notary public within and for said county, personally appeared

____

____

____

to me known to be the persons described in the above and foregoing instrument and whose names are subscribed thereto and severally acknowledged that they executed the same freely and voluntarily for the uses and purposes therein expressed.

____

Notary public __________ *County,* __________

My commission expires ________________________________

BY-LAWS OF THE ____________ OIL ASSOCIATION

Incorporated under[13] ________________ and laws amendatory thereof, and having its principal place of business at ______________, ____________

ARTICLE 1—PURPOSES

SECTION 1. *Purposes.*—The purposes of this association shall be those set forth in its Articles of Incorporation.[14]

ARTICLE 2—CAPITAL STOCK

SECTION 1. *Authorized capital stock.*—The capital stock of this association is ______________ divided into ______________ shares of the par value of __________ each.[15]

SEC. 2. *Certificates of stock.*—Certificates of stock shall be issued to each holder of fully paid stock. Each certificate shall state the par value of the stock, the number of shares represented, and the name of the person to whom issued and shall bear the signatures of the president and secretary and the seal of the association. Each certificate shall be numbered and issued in chronological order.

---

[13] Insert reference to law under which incorporated.

[14] The foregoing statement may be employed or if deemed advisable the objects and purposes stated in the Articles of Incorporation may be inserted in this section.

[15] Par values commonly used by associations are $5, $10, or $25. It is suggested that the par value be chosen with reference to the amount of capital needed.

Each certificate shall bear on the face the following statements:

(1) "This certificate No. --------, representing -------- shares of stock, numbers ------------, is issued and accepted in accordance with and subject to the conditions and restrictions stipulated in the by-laws and amendments to the by-laws of the ------------------------ Oil Association, of ---------------------------.

(2) "No stockholder in this association shall be entitled to more than one vote regardless of the number of shares held by him, nor to hold shares of a par value greater in amount than $1,000. Interest (dividends) shall not be paid on outstanding stock in excess of eight (8) per cent per annum, which shall be noncumulative. In case the holder of the stock represented by this certificate should desire to dispose thereof, the association shall have the right to purchase the same at its par value less any indebtedness then due the association, and in no event may the stock represented by this certificate be transferred without the consent and approval of the board of directors. In case the holder of the stock represented by this certificate should remove from the territory commonly served by the association or should cease to patronize it for six months, unless for good cause, the board of directors may purchase said share or shares for the par value thereof less any indebtedness then due the association. The foregoing conditions shall bind every person that may become the holder of this certificate."

Sec. 3. *Treasury stock.*—The treasury stock of this association shall consist of stock of the association that may be purchased or otherwise acquired by it and shall be held subject to action of the board of directors. Such stock shall not share in the apportionment of capital stock dividends and may be canceled at the discretion of the board of directors.

Sec. 4. *Certificate record and receipt.*—A record of each certificate of stock issued shall be kept on the stub thereof and each certificate shall be receipted for in the following form:

"In consideration of the issuance to me of certificate of stock No. -------- for -------- shares of the capital stock of the ------------------------ Oil Association, of ----------------, ----------------, I do hereby agree to all of the conditions, restrictions, limitations, and reservations stipulated in the by-laws and amendments to the by-laws of the association, and more especially to those appearing on the face of the certificate, which I have received this -------- day of ------------, 19----.

"--------------------------------------

"Witness ------------------------------."

Sec. 5. *Stock transfers.*—All transfers of stock shall be made upon the books of the association upon surrender of the certificate covering the same in person by the holders of the shares or by their legal representatives, but only with the consent and approval of the board of directors, and when the stockholder is free from indebtedness to the association, all subject to the conditions stated on each certificate of stock.

ARTICLE 3.—MEMBERSHIP

Section 1. *Qualifications.*—Any person who may be a user of any of the products handled by the association and who resides in the territory commonly served by the association may become a member of this association by purchasing at least one share of the capital stock thereof and by meeting all other requirements of the board of directors.

Sec. 2. *Termination of membership.*—Membership may be terminated in the manner provided on the certificates of stock.

Sec. 3. *Restrictions.*—No member of this association shall be entitled to more than one vote regardless of the number of shares of stock of the association held by him, nor shall any member of the association hold shares of the association of a par value greater than $1,000. Dividends shall not be paid on outstanding or paid-up capital stock in excess of eight (8) per cent per annum, which shall be noncumulative.

ARTICLE 4.—MEETINGS

Section 1. *Fiscal year.*—The fiscal year of this association shall commence on the first day of ------------ and end on the last day of ------------.

Sec. 2. *Annual meeting.*—The annual meeting of the stockholders of this association shall be held in the town of --------------------, State of --------------------, on the last ------------ in ------------ of each year, at _____________, if not a legal holiday, but if a legal holiday, on the next business day following.

SEC. 3. *Special meetings.*—Special meetings of the stockholders of the association may be called at any time by order of the board of directors and shall be called by the president whenever ten (10) per cent of the stockholders make such a request. The request shall state the object of the meeting.

SEC. 4. *Notice of meetings.*—Notice shall be given by the secretary of all meetings of the stockholders by publishing a notice thereof in a newspaper of the county in which the principal place of business of the association is located at least two (2) weeks preceding the date of the meeting or by mailing a notice thereof to each stockholder not less than ten (10) days preceding the date of the meeting. When stockholders petition for a special meeting, notice of the time, place, and purpose thereof shall be issued within ten (10) days from and after the presentation of the petition and such special meeting shall be held within thirty (30) days from and after the date of presenting the petition.

SEC. 5. *Absent members voting.*—Voting by proxy shall not be permitted, but absent members may vote on specific questions, other than the removal of directors, by ballots transmitted to the secretary by mail, and such ballots shall be counted only in the meeting at the time at which such vote is taken; provided that all stockholders of record shall have been notified in writing of the exact wording of the motion or resolution upon which such vote is taken, and a copy of the same is forwarded with and attached to the vote of the stockholder so voting.

SEC. 6. *Quorum.*—Twenty (20) per cent of the stockholders shall constitute a quorum for the transaction of business at any meeting of the association except for the transaction of business concerning which a different quorum is specifically provided by law or by these by-laws. All members voting by mail shall be counted as present in determining a quorum for the consideration of a specific question on which votes may have been cast by mail.

SEC. 7. *Order of business.*—The order of business at the anual meeting and at other meetings of the association, as far as applicable, shall be:

(1) Roll call.
(2) Proof of due notice of meeting.
(3) Reading and disposal of minutes.
(4) Annual reports of officers and committees.
(5) Election of directors.
(6) Unfinished business.
(7) New business.
(8) Adjournment.

ARTICLE 5.—DIRECTORS AND OFFICERS

SECTION 1. *Directors.*—The board of directors of this association shall consist of seven members, each of whom shall be a stockholder of this association. At the first election of directors to succeed the incorporating directors, the members shall elect 2 directors for 1 year, 2 directors for 2 years, and 3 directors for 3 years, and thereafter each director shall be elected for 3 years. Directors shall hold office until their successors have been elected and qualified and have entered upon the discharge of their duties.

SEC. 2. *Election of officers.*—The board of directors shall meet within ten (10) days after the first election and within ten (10) days after each annual election, and shall elect by ballot from among themselves a president, vice president, secretary, and a treasurer (or a secretary-treasurer), each of whom shall hold office until the election and qualification of his successor unless earlier removed by death, resignation, or for cause.

SEC. 3. *Vacancies.*—Any vacancy in the board of directors, other than from the expiration of a term of office, shall be filled until the next regular or special meeting of the stockholders of the association by the remaining members of the board.

SEC. 4. *Quorum.*—A majority of the board of directors shall constitute a quorum at any meeting of the board.

SEC. 5. *Compensation.*—The compensation of the directors and officers may be fixed at any annual or special meeting of the stockholders of the association.

SEC. 6. *Removal.*—Any director of the association may be removed from office for cause, by vote of not less than two-thirds of the members present, at any annual or at any special meeting called for the purpose, at which a majority of the members shall be present. The director shall be informed in writing of the charges preferred against him at least ten (10) days before such meeting and at such meeting shall have an opportunity to be heard in person, or by counsel, and by witnesses in answer thereto.

ARTICLE 6.—DUTIES OF DIRECTORS

SECTION 1. *Management of business.*—The board of directors shall have general supervision and control of the business and the affairs of the association and shall make all necessary rules and regulations not inconsistent with law or with these by-laws, for the management of the business and the guidance of the officers, employees, and agents of the association. They shall have installed an accounting system which shall be adequate to the requirements of the business, and it shall be their duty to require proper records to be kept of all business transactions.

SEC. 2. *Employment of manager.*—The board of directors shall have power to employ and to dismiss a business manager, and such other employees as may be necessary or desirable, and fix their compensation. The business manager shall have charge of the business of the association under the direction of the board of directors.

SEC. 3. *Bonds and insurance.*—The board of directors shall require the manager and all other officers, agents, and employees charged by the association with responsibility for the custody of any of its funds or property to give adequate bonds. Such bonds shall be furnished by a responsible bonding company and approved by the board of directors, and the cost thereof shall be paid by the association. The board of directors shall furthermore provide for the adequate insurance of the property of the association; and in addition shall provide for adequate employers' liability insurance for all employees.

SEC. 4. *Meetings.*—The board of directors shall meet at least once every month at the principal office of the association at a time to be set by the board. Special meetings of the board shall be held upon call of the president or upon written request of three members of the board. Notice of all meetings of the board of directors shall be sent to each member thereof.

SEC. 5. *Audits.*—At least once in each year the board of directors shall obtain the services of a competent and disinterested public auditor or accountant, who during the thirty (30) days preceding the annual meeting shall make a careful audit of the books and accounts of the association and render a report in writing thereon, which report shall be submitted to the members of the association at the annual meeting. In addition, the board of directors at not less than four of their regular meetings shall examine and inquire into the accounts of the association for the purpose of ascertaining the financial condition of the association with a view to taking appropriate action in regard thereto.

ARTICLE 7—DUTIES OF OFFICERS

SECTION 1. *Duties of president.*—The president shall (1) preside over all meetings of the association and of the board of directors, (2) call special meetings of the association and of the board of directors, (3) perform all acts and duties usually performed by an executive and presiding officer, and (4) sign all stock certificates and such other papers of the association as he may be authorized or directed to sign by the board of directors, and he shall perform such other duties as may be prescribed by the board of directors.

SEC. 2. *Duties of vice president.*—In the absence or disability of the president, the vice president shall perform the duties of the president: *Provided, however,* That in case of death, resignation, or disability of the president, the board of directors may declare the office vacant and elect his successor.

SEC. 3. *Duties of secretary.*—The secretary shall keep a complete record of all meetings of the association and of the board of directors and shall have general charge and supervision of the books and records of the association. He shall sign all stock certificates with the president and such other papers pertaining to the association as he may be authorized or directed to do by the board of directors. He shall serve all notices required by law and by these by-laws and shall make a full report of all matters and business pertaining to his office to the members at the annual meeting. He shall make all reports required by law and shall perform such other duties as may be required of him by the association or the board of directors. Upon the election of his successor, the secretary shall turn over to him all books and other property belonging to the association that he may have in his possession.

SEC. 4. *Treasurer.*—The treasurer shall have custody of all money belonging to the association and shall keep a full and complete record of all receipts and disbursements thereof, except such receipts and disbursements as the manager may make in the conduct of the business as authorized by the board of directors. The treasurer shall pay out no money except on the order of the president and secretary. He shall make a report of the financial condition of the association at its annual meeting and at such other times as the board of directors may require. Upon the election of his successor, the treasurer shall turn over to him all money, books, and other property belonging to the association that he may have in his possession. The treasurer shall perform such other duties as he may be authorized to perform by the board of directors. The treasurer may be required to execute a bond, to be paid for by the association, to protect the association from losses occasioned by him.

ARTICLE 8—DUTIES OF MANAGER

SECTION 1. *In general.*—Pursuant to the authority conferred by the board of directors and pursuant to its direction, the manager shall have general charge of the ordinary and usual business operations of the association.

SEC. 2. *Duty to account.*—The manager shall maintain records and accounts so that the true and correct condition of the business of the association may be ascertained therefrom at any time. He shall render annually and periodically statements in the manner and form prescribed by the board of directors. He shall carefully preserve all books, documents, correspondence, and records of every kind pertaining to the business of the association that may come into his possession.

SEC. 3. *Control of help.*—Subject to the approval of the board of directors, the manager shall have control over and may employ and dismiss all agents and employees of the association not specially employed by the board of directors.

ARTICLE 9—DISTRIBUTION OF INCOME

SECTION 1. *Method of distribution.*—At the end of each fiscal year, after paying the expenses of the association for operation and otherwise and after setting aside a reserve for depreciation and after providing for payments on interest or principal of long-time obligations or amortized debts of the association incurred in the conduct of the business, the board of directors shall apportion the net income in so far as funds are available in the following order and manner:

(1) By setting aside not less than -------- per cent of the savings as a reserve until an amount of not less than ------------ has accumulated in said reserve.

(2) By paying not to exceed eight (8) per cent interest on the capital stock.

(3) The balance of such net income shall be apportioned between all patrons of the association in accordance with the method stated in the following section.

SEC. 2. *Methods of paying patronage dividends.*—Patronage dividends shall be paid in cash to all patrons of the association, except that in the case of a patron who is eligible for membership in the association and who is not the owner of at least one share of the capital stock of the association patronage dividends shall be credited to the account of such patron until the account shall equal the value of a share of stock, whereupon the association shall issue and deliver to such person a share of the stock of the association, who shall, upon its acceptance, be a member of the association.

SEC. 3. *Application of dividends to indebtedness.*—Any part or the whole of the interest on capital stock or patronage refunds apportioned to any patron may be credited, at the discretion of the board of directors, to the indebtedness, should any exist, of the patron to the association, and in such case the patron shall be notified in writing of the amount so applied.

ARTICLE 10—MISCELLANEOUS PROVISIONS

SECTION 1. *By-laws printed.*—After adoption, these by-laws preceded by the articles of incorporation shall be printed in pamphlet form, and a copy thereof shall be sent to each stockholder and to each person who may later acquire one or more shares of the capital stock of the association as shown on the books thereof.

SEC. 2. *Amendment of by-laws.*—These by-laws may be amended, repealed, or altered in whole or in part at any regular meeting of the association or at any special meeting thereof when notice thereof has been duly given, provided that a majority of the members present and voting, including those voting by mail, at any such meeting shall vote for such amendment, repeal, or alteration.

ORGANIZATION OF THE UNITED STATES DEPARTMENT OF AGRICULTURE

November 8, 1929

Secretary of Agriculture	Arthur M. Hyde
Assistant Secretary	R. W. Dunlap.
Director of Scientific Work	A. F. Woods.
Director of Regulatory Work	Walter G. Campbell.
Director of Extension Work	C. W. Warburton.
Director of Personnel and Business Administration	W. W. Stockberger.
Director of Information	M. S. Eisenhower.
Solicitor	R. W. Williams.
Weather Bureau	Charles F. Marvin, *Chief.*
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Bureau of Dairy Industry	O. E. Reed, *Chief.*
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